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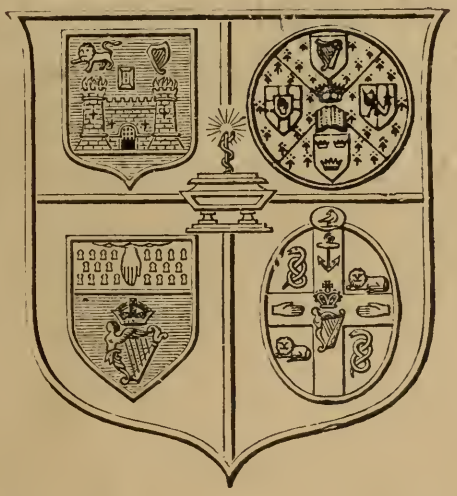

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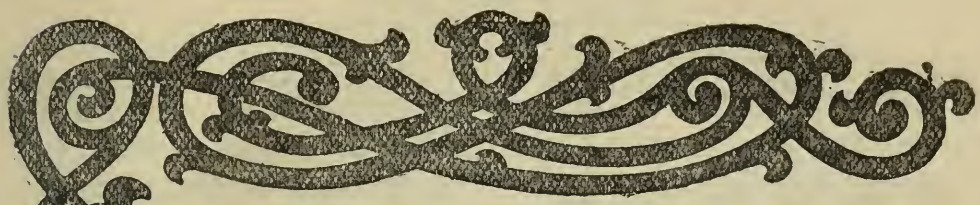

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THE DUBLIN JOURNAL

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MAY 1, 1897.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Angina Pectoris.*[a] By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

"IN spite of the numerous publications which treat of angina pectoris, the history of that complaint is not very satisfactorily known; and the various opinions which have been expressed as to its nature have thrown so little light on the subject that I wish, in my turn, to communicate to you my views concerning this singular neuralgia." This introductory sentence is *not* original; it forms the opening paragraph of the New Sydenham Society's version of Trousseau's lecture on the subject. Following the inspiring example of one of the most graphic delineators of clinical symptoms known in the annals of the literature of medicine, I propose to contribute my small mite to the general fund of the knowledge of an interesting and, still, obscure condition.

I have seen one hospital case (as a student); two of his paroxysms occurred in my presence. I have also seen another hospital case since, but had no opportunity of observing his symptoms. I have been consulted, at long intervals, by three (male) patients, all of whom described the

[a] Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, April 9, 1897.

symptoms of angina pectoris with admirable fidelity; two of these were, however, country residents, each of whom I saw but a few times, and never in a paroxysm; the third lived in Dublin, and I saw him in several of the attacks; but I lost sight of him in a short time, because, although I had given him considerable relief, I could not promise him a perfect cure, so he wished to try his fortune elsewhere.

The case from which I have derived most of my personal experience occurred in the person of a lady whom I had under daily observation for over seven months. Her symptoms—forming, as they did, a very typical specimen of the comparatively rare group of phenomena that are usually denoted by the term which forms the title of this paper—may not, I hope, be found unworthy of a few minutes' attention from the Fellows and Members of the Medical Section of the Royal Academy of Medicine in Ireland.

Case.—The patient referred to was (according to her own account), when she first consulted me, in the seventy-eighth year of her age; she was tall and stately in her demeanour, with very pronounced sharply-cut features—one of which was a very prominent aquiline nose. Her voice was decidedly harsh and unsympathetic. She was of English birth, of good family, had always lived in affluence, and had always been an extremely active—restlessly active—woman. She was a widow—had been so for a good many years; had had a numerous family, most of whom had died after reaching adult life. The death of one, which had occurred but a few years before, had probably given her as much sorrow as she was capable of feeling, for he was her special favourite.

She had suffered from no very special illness during the period of her memory till about three years before she consulted me, when, as she told me, she had been dreadfully tortured for fifteen weeks by very severe intermittent pains in the upper part of the front of the chest on the left side. The diagnosis had been "acute muscular rheumatism," and the treatment was carried out by the local application of liniments and the internal administration of medicines. Neither had ever given her the slightest relief. Her present trouble had commenced one forenoon when, as she returned from the transaction of some marketing business, she was suddenly seized, while ascending an incline to her residence, with intense pain in the front of the chest, and extending to the left side. The attack brought

her to an immediate stand-still; the pain soon subsided, and she walked very cautiously to the next lamp-post, and supported herself by it with her arms raised, which was the position which she instinctively adopted. There was a fear of return on moving, which disappeared in two or three minutes, and she then cautiously went to her house, and had no further trouble of that kind for the rest of that day. But, on the succeeding days, she was always seized—sometimes two or three times—when making some sudden exertion or involved in some fuss; and the attacks lasted a considerable time, up to half an hour or more.

On the day of my first visit—the fourth from the first seizure—she had had a very severe paroxysm, and described it to me very graphically. The onset was always instantaneous; she felt a sudden constricting sensation, of the most excruciatingly painful kind, in the precordial and mid-sternal regions. She emphatically indicated the exact mid-point of the junction between the first and second pieces of the breast-bone as the focus of most intense torture. The pain was described as crushing and grinding in character—it rapidly girdled the chest about the level of the mammillæ, formed another special centre in the left infraclavicular fossa, from which it passed towards the shoulder-joint. In the worst paroxysms it radiated in all directions—around the whole chest, upwards to the infraclavicular fossæ, from which it passed under the collar-bones to the sides and back of the neck, and even to the sub-occipital region; it fastened on the middle of the chin with intense force—"compressing it as in a vice;" it passed also downwards to the hypochondriac regions, to the inguinal areas, and even below the groins to the front and inside of the thighs; it passed laterally to the shoulder of each side, and passed down the inside of the arm as far as the finger-tips—observing in this course, pretty accurately, the distribution of the ulnar nerves.

In the milder attacks the left arm only was affected, in addition to the focal affections of the mid-sternum, præcordia, and left infraclavicular fossa. The pain passed up from the præcordia to the subclavicular region, and outwards towards the shoulder; the position of the bicipital groove was often indicated as a seat of peculiar torture. Thence it passed down on the inner side of the limb, towards the elbow; and, in the milder attacks, it frequently ended about the position of the internal epicondyle, into the upper side of the base of which the sensation of the driving-in of a nail was felt during the paroxysms. But in the severer ones, the lightning pain always passed down to the little and ring fingers, and the

sufferer was able to indicate with remarkable clearness the distribution of the terminal branches of the ulnar nerve.

A point that very specially interested me in the very vivid descriptions of symptoms which I received day after day in this case was that in the worst paroxysms she frequently noticed that the pain commenced at the periphery—ulnar side of left little finger, or (less frequently) upper side of base of left internal epicondyle—and, after one or two warning tingles, shot up to the shoulder and inwards to the mid-sternal and præcordial areas.

The next feature of the history which specially interested me was one which I only discovered after I had seen my patient a good many times—it was that her former attack of "muscular rheumatism" was similar in all its features to her present complaint. She had been reticent about it—I think because the treatment adopted had no effect, and her principal medical attendant on that occasion was a relative of her own. During the attacks, as she frequently described to me afterwards, she often went on her knees on the drawing-room hearth-rug, and remained in that position for over two hours, with her head bowed down and her hands to the front of her chest, and the cold sweat dropping from her brow; all the time fearing to move or draw a deep breath, lest her torture should be increased, and feeling that any increase of it must extinguish life.

I also ascertained that the first paroxysm from which she had ever suffered occurred in bed—about 6 a.m. I could not get any clue to an exciting cause. For many years she had been a comparatively bad sleeper; and the general restlessness of her disposition served to make that a more serious predisposing cause of almost any conceivable neurosis than it might have proved in most other persons.

The breathing, heart's action, and pulse were perfectly regular, and continued so throughout. I often hastily examined the pulse and chest during a paroxysm, and can say positively that there was never any pronounced effect on either the cardiac action or the respiration—more than would necessarily accompany the constrained position which was instinctively adopted, and the fear of moving—especially of expanding the chest—lest the pain should be

increased. The breathing was necessarily shallow, but air entered everywhere, and the pulse and heart's action were slightly accelerated—nothing more.

I suspected, of course, atheroma; but could make out no evidence—the superficial arteries displayed no marked tortuosity or rigidity—in fact, considering the advanced age of the patient, there was a conspicuous absence of such phenomena; and, as there was no superfluous fat anywhere, there was special facility for examining them. I tried, over and over again, to discover an aortic aneurysm, but failed. Then there was no other pressure symptom that I could make out. Her peculiarly raucous voice made me think of reflex laryngeal stimulation from such a source, but I ascertained from friends of over twenty years' standing that it had always been "like that." But I must mention here that during the last week or so of her life she spat up, without coughing, a little red blood from time to time.

The severer paroxysms—two of the days preceding my visit, and most of those of the former date—lasted up to about two and a half or three hours. I immediately procured a stock of nitrite of amyl capsules, and gave her directions how to use them; this she continued to do during the remainder of her life. This remedy never failed to relieve and cut short the paroxysm—less rapidly, however, as the case grew older; and instead of one capsule sufficing, as it used to do at first, she was in time brought to use as many as three before the desired effect was obtained. I gave iron and digitalis in mixture—they seemed to have a good effect: the heart showed no symptoms of actual failure throughout. The compound camphor liniment of the B. P. was rubbed in over the specially affected parts of the chest for ten minutes, morning and evening. Sulphonal tabloids (Burroughs, Wellcome & Co.) were given to procure sleep. They did succeed in giving sleep, without any compromising results; but no medicinal or moral suasion that I could bring to bear upon the case seemed to give any hope of rest during the day. She was never easy or comfortable herself, and seemed to be specially anxious that nobody in her vicinity should be either. I hesitated for some days to tell her that the great danger of over-exertion

or worry in such a case as hers was the occurrence of *sudden death;* but when I felt constrained at last to communicate this intelligence, she gave me to understand that she considered she would be better prepared to meet her Maker by continuing the active discharge of her duties in this world so long as she was at all able to do so. She naturally soon got tired of every medicine I tried. She struck against the nitrite of amyl capsules for a few days: but that experiment was a dead failure; the paroxysms, in the absence of the accustomed remedy, and in presence of the highest degree of mental combativeness, returned again and again with tremendous force—often three or four in a day, and in less than a week convinced her that it was better upon the whole to follow my suggestions. She never tried to give them up after that. During this interregnum I induced her to try the effect of the trinitrin tabloids, but they appeared to have no effect whatever. I often changed the iron and digitalis mixture for something else, but always went back to it after a time. In the intervals I gave her such medicines as belladonna, cannabis indica, stramonium, and valerian. During the time that the two last were taken in combination the paroxysms certainly appeared to be less frequent than at other times. I was always, however, obliged to change the mixture after the third bottle. I induced her to take morphin tabloids—and I had a good deal of trouble in doing it, for she did not like the idea of accustoming herself to the use of that drug—and I must say that for her general condition it seemed to do her more good than anything else I tried. She was less restless in her movements, and less emphatic in the expression of her opinions when taking morphin, and I fully believe that it lengthened her life. I advised her to treat herself generously in the way of the use of the best wines and the most carefully selected diet. She began to take some champagne, but did not continue the regular use of even it long.

I should mention that the close of the paroxysms were followed by the copious flow of urine and gaseous eructations, which are so frequently described as characteristic of this affection. The intense fear of impending dissolution, which some authorities have professed to regard as an essential

feature of true angina, can hardly be said to have existed in a pronounced form in this case.

Before I proceed further in any remarks on this rather uncommon affection, I will quote in full the original description of the first sponsor of *Angina Pectoris*. It is short; and, if even only as a specimen of clinical word-painting, well merits the trouble of perusal:—

"There is a disorder of the breast, marked with strong and peculiar symptoms, considerable for the kind of danger belonging to it, and not extremely rare, of which I do not recollect any mention among medical authors. The seat of it, and sense of strangling and anxiety with which it is attended, may make it not improperly be called Angina Pectoris.

"Those who are afflicted with it are seized while they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away if it were to increase or to continue: the moment they stand still all the uneasiness vanishes. In all other respects the patients are, at the beginning of this disorder, perfectly well, and in particular have no shortness of breath, from which it is totally different.

"After it has continued some months, it will not cease so instantaneously upon standing still; and it will come on, not only when the persons are walking, but when they are lying down, and oblige them to rise up out of their beds every night for many months together; and in one or two very inveterate cases it has been brought on by the motion of a horse or a carriage, and even by swallowing, coughing, going to stool, or speaking, or by any disturbance of mind. I have heard one, and only one, person say that he had known it attack him while he was up and standing still, or sitting. But most whom I have seen have been perfectly unaffected with riding in any manner, with speaking, swallowing, laughing, sneezing, or vomiting. One has told me that this complaint was greatest in winter; another, that it was aggravated by warm weather: in the rest, the seasons were not suspected of making any difference.

"I have observed something like this affection of the

breast in one woman who was paralytic, and have heard one or two young men complain of it in a slight degree; but all the rest, whom I have seen, were men, and almost all above fifty years old, and most of them with a short neck, and inclined to be fat.

"When a fit of this sort comes on by walking, its duration is very short, as it goes off almost immediately upon stopping. If it comes on in the night, it will last an hour or two; and I have met with one, in whom it once continued for several days, during all which time the patient seemed to be in imminent danger of death.

"When I first took notice of this distemper, and could find no satisfaction from books, I consulted an able physician of long experience, who told me that he had known several ill of it, and that all of them had died suddenly. This observation I have reason to think is generally true of such patients, having known six of them, for whom I had been consulted, die in this manner, and more, perhaps, may have experienced the same death, which I had no opportunity of knowing. But though the natural tendency of this illness be to kill the patients suddenly, yet, unless it have a power of preserving from all other ails, it will easily be believed, that some of them, who are afflicted with it, may die in a different manner, since this disorder will last, as I have known it, more than once, near twenty years, and most usually attacks only those who are above fifty years of age. I have accordingly observed one who sunk under a lingering illness of a different nature.

"The os sterni is usually pointed to as the seat of this malady, but it seems sometimes as if it was under the lower part of it, and at other times under the middle or upper part, but always inclining more to the left side, and sometimes there is joined with it pain about the middle of the left arm. What the particular mischief is, which is referred to these different parts of the sternum, is not easy to guess, and I have had no opportunity of knowing with certainty. It may be a strong cramp, or an ulcer, or possibly both.

"The opinion of its being a convulsion of the part affected will readily present itself to any one who considers the sudden manner of its coming on and going off; the long

intervals of perfect ease; the relief afforded by wine and spirituous cordials; the influence which passionate affections of the mind have over it; the ease which comes from varying the position of the head and shoulders, by straitening the vertebræ of the thorax, or by bending them a little backwards or forwards; the number of years which it will continue without otherwise disordering the health; its generally bearing so well the motion of a horse or carriage, which circumstance often distinguishes spasmodic pains from those which arise from ulcers; and lastly, its coming on in certain patients at night, just after the first sleep, at which time the incubus, convulsive asthmas, numbnesses, epilepsies, hypocondriac langour, and other ills justly attributed to the disturbed functions of the nerves, are peculiarly apt either to return or to be aggravated.

"The pulse is, at least sometimes, not disturbed by this pain, and consequently the heart is not affected by it, which I have had an opportunity of knowing by feeling the pulse during the paroxysm, but I have never had it in my power to see anyone opened who had died of it, the sudden death of the patients adding so much to the common difficulties of making such an enquiry, that most of these, with whose cases I had been acquainted, were buried before I had heard that they were dead.

"But though it be most probable that a strong spasm be the true cause of the disorder, yet there is some reason for thinking that it is sometimes accompanied with an ulcer, and may partly proceed from it, for I have seen two of these patients who often used to spit up blood and purulent matter, one of whom constantly asserted that he felt it come from the seat of the disorder. Another had no painful sensation in swallowing, and upon pressing the part, which seemed to be affected. From a fourth, who fell down dead without any notice, there immediately arose such an offensive smell as made all who happened to be present judge that some foul ulcer had just then broken.

"Bleeding, vomits, and other evacuations have not appeared to me to do any good. Wine and cordials taken at going to bed will prevent, or weaken, the night fits; but nothing does this so effectually as opiates. Ten, fifteen, or

twenty drops of tinctura thebäicæ taken at lying down will enable them to keep their beds till morning, who had been forced to rise, and sit up two or three times every night, for many months. Such a quantity, or a greater, might safely be continued, as long as it is required; and this relief afforded by opium may be added to the arguments, which prove these fits to be of the convulsive kind. Time and attention will, undoubtedly, discover more helps against this teazing and dangerous ailment; but it is not to be expected that much can have been done towards establishing the method of cure for a distemper hitherto so unnoticed that it has not yet, as far as I know, found a place or a name in the history of diseases."

(*To be continued.*)

Art. XIX.—*The Spread of Tuberculosis by the Milk Supply.*[a]

By T. Percy C. Kirkpatrick, M.D.

The question of the spread of Tuberculosis has of late attracted in a very marked manner the attention of the medical profession. There are various reasons why this should be so, a review of some of which may not be out of place here.

The identity of the cause of this disease in its various manifestations both among the lower animals and man has now been placed beyond the region of dispute. Further, the infectious nature of the disease has also been definitely settled by scientific experiment. Since these facts have been recognised, it has become a question of the greatest practical importance for prophylactic medicine to consider how far the prevalence of this disease among men is due to infection from animals, either by the way of the food supply, or by contact. The importance of this is further intensified by the fact that it is becoming more and more widely recognised that the satisfactory treatment of this disease must, to a large extent, be relegated to this department of medicine.

When we come to consider the prevalence of this disease in our midst, also the ravages which it commits, the wonder

[a] Address read before the Dublin University Biological Association on April 8, 1897.

seems to be that the question should have been neglected so long. In the returns of the death-rate for the ten years 1885--1894, for the City of Dublin and district, it is stated that 12,486 out of a total of 95,158 deaths were attributed to phthisis or consumption. Nor can this be considered as at all representing the total number of persons suffering from the various forms of the disease, for it leaves out of account altogether the various manifestations of it in the osseous, glandular and nervous systems. The number of deaths among children for which tabes mesenterica is accountable is scarcely credible. The returns of the Registrar-General for Ireland show that during twenty-five years the number of deaths from this cause was 29,133, and of these 90·1 per cent. were in children under ten years of age, while 80·6 per cent. were in children under five years of age.

Turning now to the question of the prevalence of the disease among cattle, let us consider what evidence can be adduced on this point.

In considering this question it must be remembered that these figures are collected in a very different manner. While among human beings it is only those who die of the disease who are registered, among cattle it is those which were slaughtered for other diseases, but found to be tubercular that enter the records.

Tuberculosis has long been recognised as a disease very prevalent among cattle, but it is only within recent years that definite statistics on the subject have been collected. The large number of cattle slaughtered under the Pleuro-pneumonia Order has afforded veterinary surgeons the material for very complete evidence on this subject, of which they have not been slow to avail themselves.

I shall quote a few figures from the Report of the Director of the Veterinary Department for England as evidence on this point.

In the Report for the year 1891, he says:—

"Of the total cattle slaughtered 12·22 per cent. were found more or less tuberculous—of cows or heifers in milk or in calf slaughtered 16·09 per cent. were tuberculous; bulls, 1·53 were tuberculous; other cattle under one year old 1·2 per cent. tuberculous.

"In Midlothian of the cows slaughtered 22·5 per cent. were

affected with tubercle. In London and district round, 15·53 per cent. of cows slaughtered were tuberculous." Again:—"The percentage of tuberculous cows among some herds was very high, as many as 75 per cent. existed in several, and only a few herds were without tuberculous animals."

Again, in the Report for 1892 we find it stated:—"That a much greater proportion of animals were found affected with that disease (tuberculosis) than was reported in 1891. Of the cows slaughtered in London on account of pleuro-pneumonia, 25 per cent. were tuberculous. In one herd of 20 cows 14 were found to be affected, and in several herds the percentage of tuberculous animals amounted to between 30 and 40 per cent. Cows slaughtered in Midlothian were found to be tuberculous to the extent of 20 per cent. In Yorkshire 22·8 per cent. were affected, and in Durham 18·7 per cent."

We have not, I am sorry to say, such full records for Ireland, but those at our disposal indicate that the circumstances here are not very different. I have been favoured by the Veterinary Department of the Privy Council Office, with the following statement:—

"It appears from the Departmental Records, that the *post-mortem* examinatian of the lungs of cattle slaughtered by direction of the Veterinary Department, between the years 1888 and 1893 in the North and South Dublin Unions as having been in contact with cattle affected with pleuro-pneumonia, or otherwise exposed to the infection of that disease, showed that the proportion of cases in which the lungs were affected with tuberculosis was almost 5 per cent. The majority of the cattle slaughtered were dairy cows.

"In the year 1893, however, about 160 cattle were slaughtered in county districts as suspected of pleuro-pneumonia, but on *post-mortem* examination were found free from that disease. In 78 cases the lungs were affected with tuberculosis; 30 of these were from the county of Limerick."

When we remember that affection of the lungs is only one mode of infection among cattle, these statements will, I think, have a very significant bearing on the question of the prevalence of the disease, especially among dairy cattle.

The evidence points very strongly to the fact that dairy cows are much more affected with the disease than even those animals of the same species which live principally an outdoor life. This fact is also very strongly brought out if we compare dairy cattle with other domestic animals, such as sheep, who habitually live out of doors in pastures. Tuberculosis is comparatively a rare disease among sheep.

This is quite in accordance with what we should expect from a general knowledge of the disease. The ease with which infection of one animal by another can take place is largely increased by having a lot of animals confined together in often badly ventilated sheds. Hirsch, in his handbook of Geographical and Historical Pathology, in speaking of the various factors in the causation of tuberculosis makes the following remarks:—

"Among those detrimental things in social life we have, according to nearly unanimous opinion to assign the first place, along with insufficient or bad food, to the bad domestic hygiene—to the influence of continuous residence in crowded living rooms, and work rooms tainted with organic and inorganic exuviæ, ill ventilated and damp. In fact it would be hard to find any factor in the production of phthisis which can claim more importance than that."

How often are these factors at work in our dairy yards, or rather one might ask when are they not?

From *à priori* considerations, then, one would expect to find tuberculosis much more common among dairy cattle, and this is exactly what the figures quoted above prove to be the case.

The question now arises, what danger to the public health exists from this state of things, or what evidence can be adduced to prove that human tuberculosis is in any way caused by infection from the lower animals through the food supply? An inquiry of this kind is beset with difficulties. It is impossible to make scientific experiments on human beings in order to see if they can be so infected as is done with the lower animals. There is also the difficulty of applying to human beings the result of these scientific experiments. How far human tuberculosis is of alimentary origin is a question which will, in all probability, never be accurately answered. This difficulty has been so well

anticipated by Professor Koch as long ago as 1884, that I shall quote his own words on the subject.

Speaking of the identity of the various forms of tuberculosis as manifested in the human subject, Koch, in his paper on the ætiology of tuberculosis, published in 1884, goes on to say: —

"The relation between human and animal tuberculosis, particularly Perlsucht, is a similar one. Here, too, in spite of the differences in the anatomical conditions and clinical course, they must be regarded as identical diseases on account of the identity of the parasite to which they are due. Common as tuberculosis due to inhalation is, the mode of infection can be fixed with scientific accuracy in only relatively few cases. Much less will this be possible in the considerably rarer cases of intestinal tuberculosis resulting from the consumption of the flesh or milk of cows with Perlsucht, because here the uncertainty will be still more increased by the ease with which other and commoner modes of infection may be mistaken from the true one. It is, therefore, much to be doubted whether a single case of tuberculosis in the human subject will ever be referred unquestionably to the partaking of flesh or milk of tubercular animals."

What evidence then can be adduced on this subject? I will confine myself altogether to the question of the danger from milk of tubercular cows. It is here that the greatest danger lies, and it is here also fortunately that the remedy is the easiest of application.

As regards experiments on lower animals I will only mention those made by Dr. Martin at the instance of the recent Royal Commission.

The animals experimented on were for the most part guinea pigs, but rabbits and pigs were also tried. Whole litters of these animals were obtained so that by keeping one animal out of each litter it might act as a control experiment. If this animal when killed showed any tubercular disease the results of the experiments of the other animals of the same litter in so far as they were positive were not counted.

The milk of cows suffering from tuberculosis may be divided into two classes: —

I. That derived from cows suffering from tuberculosis of

the internal organs but without any tubercular disease of the udder.

II. That of cows with tubercular disease of the udder with or without other diseases elsewhere.

With the first of these classes we have, at present, nothing to do, as all experiments point to the fact that the milk in such cows is not infective.

In the second of these classes the milk was in every case infective, and the experiments made by inoculation in every case gave positive results. As regards feeding, 27 animals were fed with varying quantities of milk from cows with tubercular udders. Of these 27 animals, 19 developed tuberculosis. The brunt of the disease in these cases fell on the abdominal organs, showing the alimentary origin, but in some cases also there was a more generalised infection. The glands about the mouth and angle of the jaw were also found sometimes tubercular. Dr. Martin in speaking of these experiments says:—

"The milk of cows with tuberculosis of the udder possesses a virulence which can only be described as extraordinary. In those cows where the tubercle bacilli were found in the milk, the feeding experiments were uniformly positive as well as the inoculation experiments. It is noticeable too, that a small dose of the milk diluted four times gave tuberculosis to all the animals fed, and that a dose of even 0·05 to 0·1 cc. diluted with non-infective milk was sufficient to produce tuberculosis."

The results of these experiments are very striking, and indicate in a very marked manner the danger of partaking of milk infected with tubercle bacilli.

Still some deny that there is any right to apply the results of these experiments to man.

Some evidence, though for reasons already stated, it is of necessity very limited in extent, is to hand on this point.

First, cases are recorded of men being infected with tuberculosis and dying as a result of it, through a wound received in making a *post-mortem* examination of a tubercular carcase, thus showing the identity of the disease in men and animals.

But there is one case to which I should wish to refer which answers almost the conditions of a scientific experiment.

This is the case of a daughter of a Dr. Gosse, and is reported by himself. This girl, up to the age of 17, had been quite healthy and had no history of hereditary taint, or predisposition to tuberculosis. Early in 1893 she became ill with more or less vague and undefined symptoms, and died in some ten months. Dr. Gosse performed a *post-mortem* examination, and discovered extensive tuberculosis of the mesenteric glands and abdominal viscera. When trying to find the source of infection in this case Dr. Gosse's attention was drawn to a small farm which he possessed in the country, this he had been accustomed to visit on Sundays with his daughter, and one of her chief delights was to drink milk fresh from the cows there. On examination four out of the five cows were tubercular, and two had disease of the udder.

This most unfortunate case may be taken as almost conclusive proof of the danger of tubercular milk, and gives us every reason to believe that we may justly apply to man the results of the experiments already quoted.

It must not be imagined that there is no danger in having in our dairy yards tubercular cows if the udder is free from disease. They are a source of infection to the other animals, and, further, this disease may occur at any time during the course of tuberculosis, and is not by any means confined to advanced cases. The disease, as a rule, is very insidious in its onset, beginning without pain, and at first, at all events, the macroscopic appearance of the milk is not altered. It is thus quite possible that it may, for a long time, escape the notice of a skilled inspector.

It was with cases of this kind, until within the last few years, that veterinary surgeons had to acknowledge themselves quite unable to deal. The very highest veterinary authorities freely admitted that, by mere clinical examination, they were utterly unable to arrive at a satisfactory diagnosis of tuberculosis in its early stages. Under these circumstances, it was impossible to advocate any extensive measures for the protection of the public. Happily this state of things is now completely changed, and in Koch's tuberculin we have a ready and accurate method of discovering the disease in its earliest stages. The experiments made for the Royal Commission by Professor M'Fadyean on this

subject were far from satisfactory. At that time, in his hands, tuberculin failed to give correct results in about 10 per cent. of the cases tried, and he was unable to explain the cause of this. Fortunately he is now able to account for these cases, and concerning them he has forwarded me the following statement:—

"The cases of apparent failure of tuberculin, in the experiments which I carried out for the Tuberculosis Commission, occurred almost exclusively in cattle that were standing in open sheds in the slaughter-houses, and that had recently been brought there under circumstances exposing them to excitement. Since that date other observers have found that, in these ciruumstances, tuberculin is not a reliable test; in other words, it is not to be relied upon in the case of slaughter-house or market cattle. Since then I have had abundant opportunities to test its reliability on cattle standing undisturbed in their own premises. In these circumstances I have found it absolutely reliable, and I have the most implicit confidence in it as a test for tuberculosis."

A statement such as this from one of the highest authorities on veterinary pathology does away with any difficulty which might be raised on the question of diagnosticating accurately the presence of disease among dairy cattle.

It is surely not too much to ask that animals so affected should be rigidly excluded from the source of human food supply. To effect this, strict and skilled inspection would be needed, and this would have the further advantage of doing away with many other most objectionable features in our dairy yards.

In considering the danger to the public from this source of contamination of the milk supply it is not my wish to raise a panic or by any means exaggerate its magnitude. To my mind it should be quite sufficient, if even a very small degree of danger was shown to be present, to justify a demand that it should be removed. It cannot be regarded as any answer to these arguments to say that by far the commonest mode of infection of human beings with tuberculosis is by the air passages, and that even the most stringent rules for dairy inspection could only to a small degree lessen the death-rate from tuberculosis. If only ten cases in the year of persons infected with tuberculosis occurred in this way,

or were suspected to occur in this way, it would be ample justification for such a demand.

It should be remembered that this danger chiefly bears on the children of our population. They are the chief consumers of milk in its raw state, and it is in them that the alimentary tract is in the most suitable condition for infection with the bacilli. Among them too we find that the disease, which we may most reasonably suspect to have an alimentary origin, is by a long way most rife. We must further consider how many, if not killed by the disease in early youth, grow up crippled or deformed as the result of it.

It is not any heroic task that the Government are asked to perform, and it surely is not too much to ask that as stringent regulations should be enforced to prevent contamination of milk with tubercle bacilli as are used to prevent its adulteration with pure water.

ART. XX.—*Notes on a Case of Incomplete Abortion.*[a] By HENRY JELLETT, B.A., M.D., B.CH., B.A.O., Dublin University; L.R.C.P.I.; Assistant Master, Rotunda Hospital.

THE following case, involving as it does an important question in midwifery, is, I think, of sufficient interest to warrant this paper:—

CASE.—E. O., aged thirty-seven, 12th pregnancy, was attended by one of the students of the Rotunda Hospital at her own home on November 25 last. When he arrived he found the patient bleeding profusely, and at once plugged the vagina and brought her into hospital. I was called to see the patient immediately after her admission, and found her in an apparently normal condition. Her pulse was about 80, full and strong; her temperature 99° F.; her face was rather pale, but this was her natural condition. In short, she had no symptoms of having suffered from any serious loss of blood. As I had some reason to doubt the aseptic condition of the vaginal plug, I removed it at once, and douched the vagina freely with creolin lotion. There was no blood on the plug, and no bleeding followed its removal. A bimanual examination then revealed the following conditions:—The uterus was completely

[a] Read before the Obstetrical Section of the Royal Academy of Medicine in Ireland, on Friday, March 19, 1897.

retroverted, the cervix directed upwards towards a point an inch or two above the upper margin of the symphysis; the uterus was about the size of a three months' pregnancy; it was easily replaceable, and no hæmorrhage followed its re-position; the cervix was of normal length, the external os admitted the tip of the index finger, the internal os was apparently closed; there was no portion of ovum or clot protruding from, or lying in, the cervical canal. I came to the conclusion that it was either a case of threatened or complete abortion—most probably the latter. I believed it to be most probably the latter, because there was no hæmorrhage of any kind—not even a drop of blood escaping from the uterus during my examination; also because the internal os was apparently contracted, while the external os remained somewhat dilated. In either case digital or instrumental exploration of the uterus appeared to be contra-indicated; as, if the case were one of threatened abortion, exploration would do harm, while if it were one of complete abortion exploration was unnecessary. I inquired into the nature of the matter that had been expelled from the uterus previous to admission, but could ascertain no particulars concerning it. Accordingly, the patient was put back to bed and I gave directions that she was to be kept as quiet as possible. An hour after this I was sent for hurriedly, and reaching the labour ward I found the patient collapsed and pallid, with a heart so feeble that her pulse was imperceptible at the wrist; she was obviously suffering from extreme collapse. She was bleeding freely, and the bed on which she had been lying contained a pool of blood. The hæmorrhage had come on with the greatest suddenness. The nurse had looked at the patient a few minutes previously to see if she were bleeding, and found that she was not. A couple of minutes later the patient called for assistance, and then the blood was found to be pouring from the vagina. I placed her in the cross-bed position, douched the vagina, and as rapidly as possible explored the uterus with a Rheinstadter's flushing curette, the os not being sufficiently dilated to admit the finger. With some little difficulty I extracted with the curette a piece of placenta about one and a half inches square. As there was still some hæmorrhage, and as I did not dare to allow the patient to lose any more blood, I plugged the uterus as rapidly as possible with iodoform gauze. A couple of times during the operation, which altogether did not take more than ten minutes, I believed the patient to be dead. While the curetting was proceeding the usual stimulants were administered; whisky was given by the mouth, ether was hypodermically injected, and, as soon as the plugging was finished, the foot of the bed was raised and the

patient kept in this position for some hours. She rallied from the collapse quickly, the plug was removed next day, and the patient left the hospital, though against advice, on the sixth day.

The foregoing are the facts of the case, and I should now like to make a few remarks as to their significance. There seems to me to be but little doubt that this patient would have died if she had not been in a hospital—that is, if medical assistance had not been immediately available. There also seems to be but little doubt that this serious hæmorrhage, with its resultant collapse, would not have occurred if the cervix had been dilated and the uterus exp'ored in the first instance; as, in that case, the portion of placenta would have been discovered and removed. It is obviously impossible that in general practice every patient could have a doctor in as immediate attendance as happened in this case. Are we then, reasoning from it, to say definitely that the uterus must be explored in any case in which a pregnant woman has had an attack of hæmorrhage? I, for one, would be distinctly opposed to any such conclusion being come to. Many patients have an attack of hæmorrhage during the early months, who are subsequently delivered at full time; and many patients deliver themselves of complete abortions without there being the slightest necessity for subsequent exploration of the uterus. If we make it our practice always to explore the uterus we shall undoubtedly cause many unnecessary abortions in the former class of case; in the latter class we shall expose our patient to a very considerable risk of sepsis, for which there will not always be compensatory gain. On the other hand, we shall benefit materially, or perhaps even save the lives of such patients as the one whose case I have laid before you.

There are, I think, three general indications for the exploration of a pregnant uterus in the early months:—

First, if the patient have lost so much blood from the uterus that we consider it undesirable that she should lose any more.

Secondly, if any portion of the ovum have come away, whilst the remainder of it is retained *in utero*—*i.e.*, if it be a case of incomplete abortion.

Thirdly, if the ovum be manifestly dead, but be not expelled—*i.e.*, if it be a case of missed abortion.

In the presence of these indications, our line of treatment is clear; in the absence of them, we adopt the expectant treatment, with the object of clearly ascertaining the nature of the case. Taking the foregoing indications as true, the crucial point lies in the correct diagnosis of the condition of affairs present. How can we decide whether the case be one of threatened, complete, or incomplete abortion? There are three points which help us to arrive at a conclusion—

First, the nature of the matter which has been expelled from the uterus.

Secondly, the total cessation or the continuance of hæmorrhage.

Thirdly, the shape of the cervix.

Of these three, by far the most reliable is the first, if we examine *all* that has come away. By so doing we can, in the majority of cases, decide at once if we be dealing with a case of abortion, and, if so, what particular variety it is. I repeat again, if we be dealing with a case of abortion, as it not uncommonly happens that what we believe to be such a case is in reality a case of extra-uterine pregnancy, the fact that the hæmorrhage has or has not ceased is a very negative sign. If the hæmorrhage continue, we may be sure that the uterus is not empty. On the other hand, its cessation is by no means an absolute proof to the contrary. Then, as to the shape of the cervix—this is altered accordingly as the internal or external os is contracted or dilated. In a case of threatened abortion, the internal os is usually more dilated than the external, as is shown by the widening of the cervix at the cervico-vaginal junction. In a case in which the ovum has been expelled, the opposite condition is found—*i.e.*, the external os is usually more dilated than the internal. This, also, is a negative sign; as, in some cases, when a portion of the ovum has been expelled the internal os contracts again after its expulsion.

If we apply the foregoing method of diagnosis to the case in point, we find that the first and most reliable guide to the condition of affairs was impracticable, as there was no opportunity of inspecting the matter that

had been expelled. The two last guides had to be relied upon, and they both tended to show that the uterus was empty, in as much as the hæmorrhage had entirely ceased and the internal os was less dilated than the external. I submit, then, that the treatment indicated was rest in bed, but how disastrous and how nearly fatal this treatment proved I have mentioned. Excluding the possibility of a mistake in diagnosis, which might and which ought to have been avoided, I think that one of two conclusions is forced upon us. Either, it is necessary to explore the uterus in every case of hæmorrhage in the early months; or, this case is to be regarded as one which is entirely exceptional, and from which no general principle can be deduced. I have given the reasons on account of which I am opposed to the first conclusion; accordingly, I see no alternative except the second. The vital importance of one point is thrown into strong relief. We should insist that everything which is expelled from the uterus be kept for our inspection, and we should examine such dejecta thoroughly.

ART. XXI.—*Clinical Pictures of Children's Diseases.* By LANGFORD SYMES, M.R.C.P.I., &c.; late Clinical Assistant, Deputy Medical Registrar and Pathologist, Hospital for Sick Children, Great Ormond-street, London.

(*Continued from page 215.*)

III. SOME INTRODUCTORY REMARKS ON THE DIARRHŒAS OF CHILDREN.[a]

THE enormous mortality amongst infants and children from this disorder, and its extreme frequency, are my sole excuses for submitting so very ordinary a subject for your consideration; for I hold the strong conviction that the more frequent the disease, and the more fatal its results, the greater claim it has upon our attention as physicians.

In few subjects have such rapid advances been made as in the pathology of these affections.

Perhaps no more difficult task could be set one than to write a succinct account of diarrhœa and diarrhœal diseases

[a] Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, April 9, 1897.

of children. I can here only attempt its very brief introduction.

Diarrhœa is truly a symptom, and a symptom only, a symptom usually of disease of the intestine, and of very different pathological states; but in its clinical forms it often assumes the garb of a most dreadful and fatal disorder. It is of this symptom I would speak, and in this short review would allude merely to what we might term the functional cases, omitting such organic diseases as typhoid, or tubercular ulcerations, or other gross structural enteric lesions.

Many may rightly argue that it ought to be banished from our list of distinct diseases; but we have scarcely yet arrived at this pitch of excellence in our pathology.

Infants are very subject to diarrhœa. It appears also to be most frequent amongst children under one year of age.

In England and Wales in 1894 the deaths of children from diarrhœa under five years old amounted to 9,005. Of these, 7,360 were infants under one year; 1,332 occurred during the second year; while in the third, fourth, and fifth years combined, there were only 313. Again, in London, 72 per cent. of all fatal diarrhœas occur in the first year of life.

These figures alone show us that this subject is one that we cannot, in any way, make light of.

It very frequently will be found to complicate other diseases of infancy and childhood, and one often sees cases of chronic diseases swept away in two or three days by a sudden and profuse diarrhœa.

The old idea that diarrhœa was good for children during "teething" has increased the deaths in past years.

One or two preliminary facts, which have been established, must be fully recognised before we can go further.

The alimentary system is a continuous one, composed of a series of organs of somewhat analogous functions. Derangements of one section of the canal can affect portions above and below it, and the organs communicating with it. Some digestive juices and secretions in infancy are practically inert; others are feeble or limited to particular kinds of food. The salivary glands, for instance, are imperfectly developed, and the saliva of children under three months is said to be

very deficient in amylolytic activity. The pancreatic juice is even more deficient. The gastric juice is comparatively unfitted to dissolve cell envelopes as its corrosive powers are weak. The infant appears to digest its milk very largely in the small intestine, while the stomach acts chiefly as a receptacle or reservoir. The stomach is more a receiver in which the milk is coagulated than a truly digestive organ, and the milk passes through the pylorus in curds to be digested further on by the pancreatic juice). We must thus recollect that milk is not truly a liquid diet, for it becomes solid in the stomach. The difficulty of digesting the curd of cows' milk is too great for the infant's delicate digestive organs. Residual undigested casein acts as a foreign body, and gives rise to irritation, and a copious discharge is Nature's effort to get rid of it.

Recognising these facts we can readily understand how indigestion must so frequently become a source of diarrhœa.

In breast-fed children maternal influences have occasionally altered the milk and affected the child. Drugs, improper food, grief and mental influences, temper, or actual illness on the part of the mother, can sometimes act on the infant at the breast.[a]

[a] *Cf.* Dr. Cautley's interesting book on "The Feeding of Infants," chapter VII. Churchill, 1897.—"Our latest investigations on the alterations in human milk show that it may be increased by the ingestion of fluids—milk, gruel, cocoa, broths, &c., also by moderate use of stimulants—ale, porter, Burgundy, and white wines; by improvement in health, by pilocarpin, electricity applied to the breast, and frequent suckling. It is diminished by saline cathartics, belladonna, and atropine. Menstruation may sometimes affect it; but observations on fifty-two children suckled by menstruating women showed less difference in its composition than is found in milk from the same individual at morn, noon, and evening. These conclusions were that menstruation is not necessarily injurious to the child; that colic, dyspepsia, and enteric catarrh should be regarded as coincidences; but that metrorrhagia may retard the development of the child. In the fifty-two cases alluded to only one became dyspeptic, but grew fat, and all the others were perfect. Moderate quantities of alcohol can be taken without any appearing in the milk (*e.g.*, one glass of wine, or half a pint of malt liquor), but excess may profoundly alter it and cause fatal dyspepsia and diarrhœa. Too much stress cannot be laid on the fact that a woman does not need stimulants merely because she is nursing. Colchicum or atropine given to the mother appear to affect the child; the former may produce diarrhœa, and atropine dilates the pupils of the child."

At present we do not know the exact capacity of a child's stomach. From the estimations we possess (chiefly German) it is said at 1 month to contain about 2 ounces,

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hence it is easy to overfeed a young child.

In the upper classes the food may be unsuitable to the child, but in the lower it is often unwholesome, and poisonous in addition.

We must recollect that the contents of the bowel are practically outside the body physiologically.

A fatal hypersecretion or choleraic flux may be taking place into the lumen of the tube, and the child may die before it is voided per anum, before, therefore, it could correctly be called a case of diarrhœa.

Also many prolonged and chronic cases are often kept up by a deficiency in the thorough evacuation of the bowels; for nature appears to favour the frequent emptying of the infantile intestine.

The infant is only constituted to digest its mother's milk up to the time it gets its teeth. The amylolytic secretions which digest starchy food are not fully active in the first few months of life; they are not so much required. Farinaceous food, therefore, unless most carefully prepared and administered, ferments and irritates the mucous membrane of the stomach and intestines, the child vomits, and the bowels discharge their contents. In health children are often practically fed on raw starch, which they cannot digest; while in disease its administration under nine months is almost inexcusable.[a]

There is no form of carbo-hydrate present in human milk except lactose. Almost all condensed milks and patent foods in the market contain an excess of carbo-hydrates—generally either starch or cane sugar. Nearly all the infants fed on these foods become fat, flabby, unwieldy, and rachitic, and from the intestinal fermentation suffer from offensive diarrhœa. Anæmia, scurvy, and rickets are also often produced by them.

[a] We may take the appearance of six teeth as an indication that the child may have food of a starchy nature.

Thus, unwholesome, improper, excessive, or irregular feeding is responsible for an enormous number of these diarrhœas of children. It may, of course, occur at any period of the child's life, but is most frequent during the first year. It may be a very acute and suddenly violent disorder, and can occur at any time or season of the year. This species of attack then forms one large class of cases which is doubtless very familiar to those who have had any experience of children.

When, however, this mechanical irritation is long continued, when this indigestion from errors of diet has become almost habitual, and when the unfortunate child is so placed that scarcely a meal is correctly provided for it, when it grows up sharing the sometimes indigestible fare of its elders, eats forsooth anything with which it may chance to be in contact, then this intestinal indigestion becomes an essentially established condition—a chronic process. The repetition of these errors produces persisting irritation of the intestine, and a wretched state of chronic diarrhœa is established.

It would be useful to find out whether "teething" actually causes diarrhœa or not. At this time children get hold of the most unwholesome things to chew and "cut their teeth on," and in these substances lie many of the cases we hear of.

It is most remarkable that during times of great distress, as during the Siege of Paris, or the Lancashire Cotton Famine, the infant mortality is largely reduced, while the adult mortality is increased. The explanation is that from the scarcity of food the mothers are compelled to suckle their children, and hence *the* great source of danger is abolished.

Infants' food is very liable to become contaminated.

The children of the poor eat the most unwholesome things, and a vast amount of dirt along with them.

The fungus of thrush (Saccharomyces albicans) is capable of directly producing intestinal disorders and diarrhœa. It is very liable to attack the mouth. This organism is said to decompose milk like Bacterium lactis, and form lactic acid, and, according to some, butyric and formic acids also. Dr.

Forbes Ross has directly produced thrush from the sour milk of an unclean jug; also, he has produced it from the fæces of some cases of diarrhœa; but it is a curious fact it was only in cases where the nates were excoriated that he was able to develop this fungus.

Why are rickety children so often liable to diarrhœa? Some say these children sweat more and hence are easily chilled, but the bad feeding which produces rickets may, I think, cause diarrhœa at the same time.

Another enormous class, and totally distinct category, of cases arises in a much more complex fashion. Every summer and autumn thousands of children are swept away by profuse and uncontrollable watery discharges from the bowels.

Sanitation affects children markedly; air-space, ventilation, drainage, situation, general home cleanliness, and water and milk supply.

It has long been thought that the filth and putrefaction of towns, animal exhalations, with atmospheric changes, caused this "summer diarrhœa" amongst children. Until recently, however, we got no further. How they operated was not fully explained. Dr. J. B. Russell has greatly aided us by his investigations and statistics in Glasgow of deaths occurring from this disorder. He finds that "the death-rate from diarrhœa of children under 5 years of age is now (1890–'94) exactly what it was 30 years ago (1860–'64), while the death-rate at the age of 5 years and upwards is less by more than one half." Improved water supply, therefore, in Glasgow has not influenced the infantile diarrhœas, though it has lessened by half those occurring over 5 years of age. In fact, the water-drinking school children have been saved, while the milk-fed infants still die in large numbers.

It is in July, August, and September, when the air is very hot, and decomposition going on in organic materials, that this summer diarrhœa is most prevalent, and that its mortality is highest.

In 2,000 cases of death amongst children from this cause [a] it was found on investigation that only 3 per cent. were breast-fed, revealing a most extraordinary immunity amongst

[a] Emmett Holt. *Cf.* Ashby and Wright, on Diseases of Children. 3rd Ed., 1896, p. 87.

infants nursed by their mothers. These diarrhœas, therefore, are found to affect artificially-fed children—97 per cent. of these 2,000 cases having been so brought up. A most valuable return of statistics of infantile diarrhœa was published last year (1896) by Dr. Niven, of Manchester. Through his kindness I am enabled to call attention to the following remarkable figures:—

Out of 500 deaths only 15 were being breast-fed when taken ill.

The relative chance of dying from diarrhœa of hand-fed, as compared with breast-fed children, was as—

88 to 1 under 1 month old,
95 to 1 at 1 month,
And 123 to 1 at 4 months.

It is striking that these figures exactly coincide with Dr. Emmett Holt's finding in America—*i.e.*, 97 per cent. being breast-fed—while Minert, in Bavaria, finds 96 per cent. in his country.

Bacteriological investigators stepping in at this stage have since furnished us with a clue to the understanding of many of these conditions.

First of all they tell us that the fœtal intestine is *sterile*, but that a few hours after birth bacteria find an entrance to it. In the healthy nursing child two species of bacteria are said to be constantly found in the intestines. These are the *Bacterium lactis aerogenes* which inhabits the small intestine, and the *Bacterium coli commune* which lives in the colon and lower part of the ileum.

In cases of summer diarrhœa the intestinal contents are found to swarm with many species of bacteria, and some of these are very poisonous. These organisms grow and multiply outside the body, and are abundantly disseminated when the temperature of the air is over 60° F. They grow best in milk.

Unfortunately, milk is at this period of its life the infants' chief or only food; also, it is the very best cultivating medium in which these poisonous organisms can flourish.[a]

It is thus easy to understand how the hand-fed infant so

[a] Lord Lister says—"I once met with a bacterium, but only once, that would not live in milk."

frequently falls a victim to summer diarrhœa, and that this disease is almost confined to this period of life.

Human milk is a sterile fluid. Cows' milk is sterile only when obtained from the udder of a healthy cow by a trocar and cannula, but is usually acid when reaching the consumer, and is crowded with micro-organisms.

The milk obtained from the milkshops in London last year (1896) contained from 848,400 to over 8 million micro-organisms per cubic centimetre.

It has been found then that these summer diarrhœas are directly produced by infected milk, and some of these poisons have been isolated.

The absence of more positive data on these points is explained by the difficulty of reaching the small intestine; it is cut off from direct observation, and the putrefaction in the large intestine obscures the results.

Dr. Ballard in his supplement to the Report of the Local Government Board in 1887 concluded that :—

1. Summer diarrhœal mortality closely follows the indications of the 4-foot earth thermometer; only commencing definitely when the T. is over 58° F., and is highest at the highest mean weekly reading of this thermometer.
2. It is associated with unsanitary conditions.
3. Fatal diarrhœa is immensely influenced by the food which the infant takes immediately before an attack.
4. In the food the micro-organisms find a nidus and pabulum convenient for their development, that from the food, as from organic matter in soils, they can manufacture a virulent chemical poison, and that this chemical substance is, in the human body, the material cause of epidemic diarrhœa.

It is exceedingly probable then that these diarrhœas are due to bacteria in the superficial layers of the earth.

In an investigation conducted by Dr. Cameron, in Leeds, into 153 cases of fatal diarrhœa in children, for 6 weeks ending September 30, 1893,[a] it was found—

That 80 per cent. of the cases occurred in houses with no through draught;

That the mortality is the largest amongst bottle-fed

[a] *Cf.* Dr. Cautley. Op. cit. P. 7.

children, smallest in breast-fed children, and is larger during the first 6 months of life than during the second 6 months.

This subject of classifying diarrhœa has for generations greatly perplexed medical observers. It would appear now that as we are getting a little more light thrown upon these disorders they will become more simplified. A strictly anatomical classification is impossible. Those who have had most experience have failed to arrive at one, *because* there is no relation in any case of diarrhœa between the severity of the symptoms and the appearances found after death. Many forms are described, but there is no morbid anatomy to correspond. The severest symptoms, and the most fatal cases, frequently exhibit the fewest *post-mortem* lesions (*cf.* cholera); while a child, who during life has had but little diarrhœa, may reveal the most intense structural mischief in the intestines.

Given a typical case of death from diarrhœa, no one can tell what he will find in the intestine, or whether he will find any morbid change.

Therefore, no classification can be formed from morbid anatomy.

The most useful one is that I have shortly sketched, viz.:—

I. *Dyspeptic*, and
II. *Infective.*

It is based on the ætiology of these disorders, as far as we know them at present, and is a great help.

These types have been greatly confused by different writers, and a long list of vague pathological names have in past times been attached to them which are certainly not now warranted by *post-mortem* examinations, and cannot be borne out by facts.

Thus the names—

Muco-enteritis,
Entero-colitis,
Inflammatory diarrhœa,

have, in many cases, no pathological entity.

This ailment may be of all grades of severity; and between these several forms no very sharp line of demarcation can be drawn.

Seeing that in nearly every case is to be found the

administration of some patent food with, perhaps, milk in various stages of decomposition from an apparatus impregnated with toxic germs, we can easily understand that fermentative changes are present in most instances. Deposits in dirty bottles teem with organisms. Tubes have been a fertile source of diarrhœa, and are often covered with a layer of decomposing "must."

A child with dyspeptic diarrhœa is very liable to contract the more infective forms, for its intestine is like a culture tube that is left open to many kinds of bacterial invasion.

Throughout the books we have endless forms described, resulting in a *melée* of names which confuse us. Many merely signify the character of the stool that is voided by the child—a description of the motion and not of the malady—while others are anatomical and, hence misleading. Thus:—"Ulcerative diarrhœa" is supposed to indicate ulceration proceeding in the intestine. "Nervous diarrhœa" is produced, apparently, solely by causes acting through the nervous system—fright, anxiety, &c.—and, certainly, with some cases, as in adults, the nervous system is intimately associated. "Lienteric diarrhœa" signifies that cognisable and particulate fragments of food are passed unchanged from the bowel. It is usually seen in children about five or six years old. The food produces an increased peristaltic action on the part of the intestine, and it often occurs at the end of a meal. The child complains of uneasiness in the belly, with griping, and this is quickly followed by a loose motion of undigested food. "Catarrhal diarrhœa" simply means that there is mucus in the motions.[a]

[a] Some years ago Professor Nothnägel investigated over 1,000 stools from cases of so-called catarrhal diarrhœa containing mucus, with a view to ascertain where the mucus came from, and hence the seat of the malady. His conclusions were that mucus passing from high up in the small intestine (jejunum and ileum) is invisible to the naked eye. It is disintegrated and intimately mixed through the motion, and the stools are passed without pain or straining. Under the microscope, however, islets or globules of mucus can be abundantly seen, and, maybe, bile stained. A cursory examination, therefore, of the stool may not reveal any mucus whatever, although catarrhal conditions of the small intestine be actually present. Jaundice would, of course, point to the duodenum; but this is rarely seen in children. The colon, on the other hand, discharges its mucus visibly, with a pulpy motion. The sigmoid flexure voids it pure and unadulterated, while the rectum passes it surrounding scybala and accompanied by tenesmus and straining.

"Dysenteric diarrhœa" signifies that it resembles dysentery in the passage of lumps of mucus stained with blood. "Croupous diarrhœa" means that there are shreds of mucous membrane found in the stools at each motion of the bowels. "Mucous diarrhœa" is similar to catarrhal diarrhœa, and merely describes a mucous stool. "Febrile diarrhœa" and "Inflammatory diarrhœa" sufficiently explain the meaning of the terms, but convey no information as to the disease.

The frequency of evacuation is not a true guide to the condition of the child. It is often misleading. The case of cholera infantum which ceases to evacuate its bowels may be in extreme danger. It has been said that frequency of evacuation is not always a necessary symptom of diarrhœa. It is a natural therapeutic method of cure, and is strongly indicated. It is not the evacuation *per se* that is the evil condition to be treated, but the irritation and contraction of the bowel, and the hypersecretion of fluid into it.

Diarrhœa produces an alarming fall in blood-pressure in children. The loss of water may quickly collapse them, causing absorption of moisture from the tissues, shrinking of the limbs, and collapse of the features, depressed fontanelle, and a weak and failing heart. Intestinal irritation in children also profoundly affects the nervous system, and this has been so marked as to have often been mistaken for organic cerebral disease. Hence, in past years, the origin of the term "hydrocephaloid."

In young children the liver is very large, and, perhaps, the bile is of comparatively more value than in adult life, and the action of mercurials in these cases in part due to their stimulating action in producing a copious flow of this secretion.

Regarding the pathology of "green diarrhœa," there seems to be no consensus of opinion. Five different micro-organisms have each been named as producing it, and it is also attributed to a deficiency of bile leading to the formation of biliverdin.

Finally, this disorder in children, whatever form it may take, should never be made light of. Every case should be strictly investigated after it has existed for any length of time. Any kind of diarrhœa must be guarded against in

summer. We must never lose an opportunity of examining the stools. Again, in children, diarrhœa sometimes carries off many noxious materials, and we should reflect on this before prescribing for the case.

In all forms the changes found after death largely depend on the length of its existence.

The already thrown-off material must be at once removed from the bowel.

The infantile alimentary canal has been recently very well likened to an ordinary surgical sinus, open at both ends, subject to interruptions here and there, into which sinus is constantly being introduced foreign material in the shape of food. It is constantly under the influence of septic organisms. Its walls are subject to the same conditions as regards rest and irritation, septic fermentation, accumulation of its normal contents and discharges, and their liability to undergo decomposition. Likewise it is subject to many of the same principles of the truest antiseptic treatment—

1. Thorough asepsis and cleanliness.
2. Free drainage.
3. Freedom from irritation, and perfect rest.

These three principles summarise the indications for our treatment of many diseases of the infantile intestine; for since our knowledge of these ailments has increased, our treatment has correspondingly varied, and is now quite different from that formerly in vogue.

(To be continued.)

SYMPHYSEOTOMY.

Prof. Avers, of New York, contributes a paper on symphyseotomy to the *Medical Record*. He tabulates all cases occurring since 1886 where antisepticism was firmly established, and includes only those in which the patient had not been more than 24 hours in labour. There were 111; 6 mothers died; 112 children were born, of whom 16 died; the average duration of labour was 16 hours. His table gives a maternal mortality of 5 per cent.; but, says the Professor, "it is no exaggeration to say that the essential mortality of symphyseotomy is not much over one per cent. I believe the operation is slightly more dangerous than induced labour."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Text-Book of Special Pathological Anatomy. By Ernst Ziegler. Translated and edited from the eighth German Edition by Donald MacAlister, M.A., M.D., and Henry W. Cattell, M.A., M.D. Sections I.–VIII. New York: The Macmillan Company. 1896. Pp. xxxii.–575.

Professor Ziegler's text-book has gained such a popularity and is so well known, that little more is necessary than to announce the appearance of a new edition of Dr. MacAlister's excellent translation. Since the publication of the second edition of the English text many editions of the German work have appeared, so that in the present issue the text has been entirely re-written and the bibliographical and other supplementary portions have been recast. By curtailing the bibliographical references, and confining them only to the most important and recent works, much space has been gained, and the work, which is growing larger and larger in each successive edition, has been kept within limits.

The subjects treated of in the present volume are: The blood and lymph; the vascular mechanism; the spleen and lymph glands; the osseous system; the muscles and tendons; the central and peripheral nervous systems and the skin. The second volume, dealing with the liver, pancreas, the respiratory and genito-urinary systems, the eye and the ear, is in the press; while it is intended later on to publish a translation of the first volume on general pathological anatomy, from the latest German edition.

It is, as we have said, quite unnecessary to dilate on the numerous excellences of this book. The clearness, brevity, and, at the same time, completeness of the descriptions, and the number and extraordinary beauty of the drawings have made it perhaps the most popular text-book of pathology

which has ever appeared. To the histological illustrations there have been added, in the later editions, many figures illustrating naked-eye appearances, and although they can hardly be said to equal in beauty the microscopic drawings, yet many of them are admirable, and all of them are highly graphic and illustrative of the appearances they are intended to show. This is particularly the case in the sections on the bones and on the nervous system.

The translation is deserving of the highest praise. The work has now an international character, as Dr. MacAlister has associated with him Dr. Cattell, of Philadelphia. The translators have not only produced a work which reads like an original English text, but they have edited and made such alterations in the original as to adapt it to the uses of English readers, while at the same time preserving all the many excellences of the German original. The book is one which cannot be too highly recommended to all medical readers, whether pathologists by profession or not. It is now universally recognised that no diagnosis is possible without a knowledge of pathology, and that no treatment can be considered rational which does not rest on a pathological basis. The importance of pathology as a subject of medical study is becoming more and more evident day by day. Nowhere can all the essentials of pathological anatomy be more easily and pleasantly acquired than from the work of Ziegler, which is now accessible to all readers. The volume is brought out in the admirable style which characterises all the works published by the Macmillan Company. The copious index, extending over thirty-two pages of double columns, adds largely to the usefulness and value of the text.

Exercises in Practical Physiology. By AUGUSTUS D. WALLER, M.D., F.R.S. Part I. Elementary Physiological Chemistry. By AUGUSTUS D. WALLER and W. LEGGE SYMES. London: Longmans, Green, & Co. 1897. Pp. 24.

THIS little work consists of a number of practical exercises in physiological chemistry—of a very elementary character, but well suited for the use of beginners. Each page is printed in two columns. In one, the directions are given for the

performance of the experiment, in the other, the result which should be obtained is stated. In some of the sections a third column is added, giving the inferences which may be drawn from the experiment.

The order in which the subjects are taken is that usually adopted. 1. The proximate principles—proteids, albuminoids, fats, carbohydrates. 2. Important articles of diet—bread, potatoes, butter, peptone, beef-tea made in different ways. 3. Tissues and fluids of the body; extracts of liver, brain, muscle; bone ash; blood, milk, urine, bile, saliva, gastric juice, pancreatic fluid, intestinal juice. 4. Hints for the qualitative examination of solids and fluids containing substances of physiological interest. 5. Quantitative estimations of urinary constituents; sodium chloride, by Mohr's method; phosphoric acid, by uranium method; sugar, by Fehling's method; and urea, by Dupré's modification of the hypobromite method.

On the whole, the exercises are good, but would be much more instructive if some explanation of the different reactions were added. Students are too ready to accept facts without inquiring into their explanation, and the habit of asking the reason why is one which cannot be too much encouraged.

Again, many of the sections appear to us to be very meagre. Why, for instance, are carbonic acid and phosphoric acid the only substances looked for in bone ash? Why, in the study of beef-tea, is no account taken of the extraction of the proteids of meat by dilute acid or saline solution—very practical questions, as well as of physiological importance.

As to the English University style of question—"Solution A contains two substances of physiological interest. What are they?"—it has always seemed to us as one almost impossible to attempt, since there is hardly anything from protagon down to water which is not of physiological interest. Of course, if the substances given are confined to the list indicated in these tables or in Professor Halliburton's exercises, the detection is not difficult, but such a question given without any limitation is not, in our opinion, one calculated to test the student's knowledge. We have heard of a case in which muscarin was given. If muscarin, why not any

other poisonous alkaloid, why not any poisonous inorganic substance, why not anything organic or inorganic which may injure or serve the animal organism? So that the question becomes so wide as to be practically insoluble.

A Contribution to the History of the Respiration of Man. By WILLIAM MARCET, M.D., F.R.C.P., F.R.S. London: J. & A. Churchill. 1897. Imp. 8vo. Pp. 116.

THIS volume contains the Croonian lectures delivered before the Royal College of Physicians in 1895. The following is the author's summary of the matters dealt with in the four lectures:—

"In the first lecture the oxygen of the atmospheric air was shown to be the main agent of life, and Hermann's discovery that oxygen is an integral part of the tissues was appealed to, with the object of explaining the remarkable vitality of certain organisms, such as seeds, and their capability of resuming the function of life after an unlimited period of complete repose. Next came an attempt to explain that it is not the oxygen of the air which, by offering itself to the tissues, produces the phenomena of metabolism, but living tissues call upon oxygen to effect the changes they undergo. The influence of tissues as the prime movers in the matter was shown by the action of cold, which first increases their vitality, and consequently the demand for oxygen, though when excessive it excites an influence the reverse in its character. Muscular exercise invariably tends to the production of CO_2 in excess, and the phenomenon was afterwards appealed to as an illustration of increased molecular vibration; this led to some remarks on the influence of walking exercise in the act of ascending, on the temperature of the body; it was concluded that with some people there is a slight rise, and with others a slight fall of temperature.

"The second lecture was prefaced with a short allusion to some of the principal investigations on human respiration; then followed the history of the different forms of breathing, which were illustrated by tracings taken directly from the person under experiment. Attention was also drawn to the absorption of oxygen in the body, and a number of analyses were quoted showing to what extent this absorption takes place.

"The third lecture was given up entirely to the influence of volition on respiration. It was shown that volition without response towards any kind of muscular exercise, including forced breathing,

is attended with increased pulmonary ventilation; and also with the absorption of an excess of oxygen, and that this oxygen is necessary towards the exercise of volition; if necessary to volition it must be taken up by the motor centres of volition. A remarkable effect on the development of muscular force by this charging of the motor centres with oxygen was found to take place. It was also shown that on the return to the state of physical and mental rest, after volition had been exerted with and without response, a pause or state of apnœa was invariably produced; but this apnœa failed to appear when volition or attention was forcibly directed to respiration in deep breathing. Finally, an experiment was described in which, volition being tired out, the muscles refused to work, this experiment being in keeping with Mosso's remarkable discovery.

"The fourth lecture was devoted first of all to an account of the influence of climbing on the respiratory changes, and on the state of the respiratory phenomena at high altitudes. Next, air re-breathed under atmospheric pressure was considered, and it was shown that when re-breathing the same air over and over again there is an accumulation of CO_2 in the body, which is quickly expired when fresh air is breathed. This was followed by statements from Paul Bert and quotations from Mr. Glaisher, showing the effects of low atmospheric breathing towards checking the exercise of volition. The lecture was concluded with an allusion to asthma, and to a method of treatment depending mainly on the improvement of the respiratory phenomena by what may be called a process of training."

About half the volume consists of a supplement, in which the methods of investigation are described and tables of analytical results are given. The text is illustrated by numerous plates of apparatus, diagrams, and respiratory tracings. The book, it will be seen, deals with many interesting subjects, and is a valuable contribution to the physiology of respiration.

The Cell in Development and Inheritance. By EDMUND B. WILSON, Ph. D. New York: The Macmillan Company. 1896. Pp. 371.

SOME little time ago we had the pleasure of noticing Professor Wilson's beautiful atlas of the fertilisation and karyokinesis of the ovum, published with the co-operation

of Dr. Leaming, and we have now to call the attention of our readers to another remarkable and important cytological work by Professor Wilson, which, like the atlas, is one of the Biological Series of the Columbia University.

The present volume, we are told, is the outcome of a course of University lectures delivered in 1892-3, in which an account was given of recent advances in cellular biology, and the steps were traced by which the problems of evolution have been reduced to problems of the cell.

The publication has been delayed by the necessity for the re-examination of the history of the fertilisation of the egg, made necessary by Fol's description of the "Quadrille of Centres." According to this, each germ cell, spermatozoon and ovum, contributes two centrosomes, or one which divides, so that four centrosomes result. "The daughter centrosomes thus formed conjugate two and two in such a manner that each of the centrosomes of the cleavage spindle is formed by the union of a centrosome derived from each germ cell." This view, which was supported by the observations of Guignard on the lily, and those of Conklin on the marine gasteropod *Crepidula*, has been refuted by the researches of the author, of Boveri, and of Mathews. These writers have shown that "in the echinoderm, as in so many other cases, the egg centrosome disappears. The cleavage amphiaster arises solely by division of the sperm-aster, and the centrosome of the latter is derived, not from the tip of the spermatozoon, as asserted by Fol, but from the middle piece, as already described."

The work is divided into an Introduction and nine chapters. In the Introduction a historical sketch of the cell theory, and of its relation to the evolution theory, is given. In Chapter I. we have a general sketch of the cell. The author inclines to the fibrillar theory of protoplasmic structure, but somewhat doubtfully. In Chapter II. a masterly account is given of the phenomena and mechanism of cell division, both by mitosis and by direct processes. The much-disputed question whether the centrosome gives the primary impulse to the division of the cell by its own divisions is answered in the negative, "for there are several

accurately determined cases in which the chromatin elements divide long before the centrosome, and it is now generally agreed that the division of chromatin and centrosome are two parallel events, the causal relation between which still remains undetermined."

Chapter III. is devoted to a description of the structure, origin, and growth of the germ cells, the ovum and spermatozoon. Nowhere will a more admirable account be found than that here given of the extraordinarily complicated structure of the spermatozoon, which recent research has demonstrated.

Chapter IV. is on the fertilisation of the ovum. The process both in plants and animals is considered. It is shown that the ovum loses its centrosome, which loss is regarded as a provision to guard against parthenogenesis, and to ensure amphimixis, while the paternal element loses nearly all its cytoplasm, but carries with it into the ovum the centrosome. "The equivalence of the germ cells is thus finally lost. Only the germ nuclei retain their primitive morphological equivalence. Hence we find the essential fact of fertilisation and sexual reproduction to be a union of equivalent nuclei, and to this all other processes are tributary. The substance of the germ-nuclei, giving rise to the same number of chromosomes in each, is equally distributed to the daughter cells, and probably to all the cells of the body."

Chapter V., one of the most interesting in the volume, is on the reduction of the chromosomes which occurs in the formation of the ovum and spermatozoon. The different views which have been held as to the origin of the tetrads are well discussed; but while hesitating to accept the type which has been described in Ascaris and the plants, in which double longitudinal division of the chromosomes is said to occur, the author admits that the problem of reduction still wants full solution.

In Chapter VI. the more important problems of cell organisation are considered, while those of cell chemistry and physiology are dealt with in Chapter VII. In Chapter VIII., on cell division and development, such subjects as the geometrical relations of cleavage, the

polarity of the egg, and the energy of division receive consideration. Chapter IX. gives an admirable summary of the theories of inheritance and development.

The modern researches on the cell have developed not only a new science, but also a new language. Many of the terms cannot be familiar to general readers, for whom as well as for experts, this work is intended. The author has done good service in giving a carefully prepared glossary explaining the meaning and derivation of the new words met with in cytological literature.

A feature of the work is the very copious references to literature. Not only is there a short bibliography given at the end of each chapter, but at the conclusion of the volume a general literature list of great extent, and admirably arranged, greatly enhances the value of the text.

There are 142 beautifully executed figures, many of which are original. To say that the work is published by the Macmillan Company is to say that the manner in which it is brought out leaves nothing to desire.

Nowhere else in the English language is there such a complete and, at the same time, such a readable account to be found of the cell and the part which it takes in inheritance. The work of Professor Wilson cannot be too warmly recommended to all those who are interested in these fundamental biological problems.

Atlas of Clinical Medicine. By Byrom Bramwell, M.D., F.R.C.P. Edin., F.R.S. Edin.; Assistant Physician to the Edinburgh Royal Infirmary, &c., &c. Volume III. Part III. Edinburgh: T. and A. Constable. 1897.

This Part completes the third volume of Dr. Byrom Bramwell's "Atlas of Clinical Medicine." It contains a much larger number of plates than was originally promised to the subscribers, and in an accompanying note the author tells us that he has still a large number of plates in hand which he hopes he may have an opportunity of issuing at some future time. From this remark we are sorry to gather that with the issue of this fine fasciculus Dr. Byrom Bramwell brings to a close his masterly work—we would express the hope

that at no distant time he may resume his self-imposed task and give to the medical world the aftermath of his ripe experience in the great field of clinical medicine.

The author regrets the long delay in issuing this, the concluding, Part of the "Atlas." It has been chiefly due to the fact that some of the cases of pseudo-hypertrophic paralysis and myopathic atrophy recorded in the text proved fatal one after the other, and the exhaustive microscopic examination of the tissues occupied, in the midst of other work, long periods of time.

The topics discussed in this Part, in addition to pseudo-hypertrophic paralysis and progressive muscular atrophy, are—cyanosis and congenital heart disease, a remarkable case of calcareous degeneration of the heart and other organs, chlorosis, pernicious anæmia, and alopecia areata. There are no fewer than fifteen plates, including three illustrating acute, chronic, and senile dementia, respectively. This brings the total number of costly plates in the Atlas up to one hundred.

Taking it all in all, the Atlas of Clinical Medicine is a splendid contribution to medical literature, and does infinite credit to the Edinburgh School of Medicine, of which Dr. Byrom Bramwell is so worthy a representative.

The Principles and Practice of Medicine. Designed for the use of Practitioners and Students of Medicine. By William Osler, M.D., F.R.C.P.; Professor of Medicine in the Johns Hopkins University, and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore. Second Edition, thoroughly revised. Edinburgh and London: Young J. Pentland. 1895. 8vo. Pp. 1143.

It is not altogether our fault that a notice of this admirable text-book has been so late in appearing. Although the title-page bears the date "1895," it was not until the end of January, 1897, that a copy for review reached our hands.

Beautifully printed, written in clear, terse, and often eloquent English, and well illustrated, Dr. Osler's work must ever take a foremost place among text-books on Medicine.

This Second Edition has been improved in many respects without being unduly enlarged. The article on typhoid

fever has been revised to date, although of course no allusion is made to Widal's method of diagnosis. Ehrlich's diazo-reaction is, however, mentioned with faint praise. It was present in 136 out of 196 cases examined at Dr. Osler's "clinic." In the section on "Malarial Fever" full justice is done to Laveran's observations on the *Hæmatozoa malariæ*. The whole question has been recently considered by Dr. Osler's assistants, Dr. W. S. Thayer and Dr. Hewetson, in an elaborate report on the malarial fevers of Baltimore. Their monograph was published in the fifth volume of the *Johns Hopkins Hospital Reports*.

The section (XV.) on "Diphtheria" has been re-written and much extended. In it Dr. Osler reserves the term "diphtheria" for an inflammation of a mucous membrane or integumentary surface characterised by necrosis and a fibrinous exudate caused by the Klebs-Löffler bacillus, Under the term *diphtheroid* may be grouped those membranous inflammations which are not associated with that micro-organism. As in a great majority of cases the *Streptococcus pyogenes* is the active organism the term "Streptococcus diphtheritis" is often used. The diphtheroid inflammations are particularly prone to develop in connection with the acute fevers. Dr. Osler evidently thinks highly of the antitoxin treatment of the true disease, although he admits that a much larger number of cases must be treated over a long period before final judgment can be reached.

The account given of bubonic plague is very short. It occupies only one page, half of which is devoted to a description of Kitasato's bacillus. This specific micro-organism was discovered in the short but severe outbreak which occurred at Hongkong in May, 1894. Needless to say that this terrible disease deserves a longer notice, regard being had to the disastrous Indian epidemic of the past winter.

Under the heading "Infectious diseases of doubtful nature," we are glad to find "febricula" or "ephemeral fever" included. The specific nature of this affection we have long recognised in spite of Murchison's views on the subject. We also agree with Dr. Osler in the opinion that one group of febricula represents a mild or an abortive type of one of the infectious

fevers. "Foot and Mouth Disease" (epidemic stomatitis or aphthous fever) is briefly described in this same section (XXXI.); but we find no mention, either here or elsewhere in the work, of Pfeiffer's "Drüsenfieber," so named by him in 1889, but also called "febrile polyadenitis" and glandular fever in children" (Dawson Williams in the *Lancet*, January 16th, 1897). This fever is a nosological entity which appears deserving of consideration and observation.

Among the notable alterations which have been made in the present edition is a new general introduction to the section (VIII.) on Disease of the Nervous System. In it the recent studies of Golgi, Ramon y Cajal, Waldeyer, Berkeley, Van Gehuchten, and others, have been incorporated. In the section (X.) on the Intoxications the author refers to the investigations of Gosio, confirmed by Sanger, which go to show that arsenical poisoning may sometimes be due to the action on arsenical organic matter in wall-papers of several moulds, such as *Penicillium brevicaule*, *Mucor mucedo*, and so on. In moisture, and at a temperature of from 60° to 95° F., a volatile compound is set free, probably "an organic derivative of arsenic pentoxide" (Sanger). The ingestion of minute doses of this derivative time after time may explain the chronic poisoning from fabrics and wall-papers. Speaking of arsenical poisoning, Dr. Osler mentions a clinical fact which is worth remembering. A patient with Hodgkin's disease under his care developed multiple neuritis after taking thirty-three fluid drachms of Fowler's solution within seventy-five days, during which time there were fourteen days on which the drug was omitted.

Section XI., on Diseases due to Animal Parasites, opens with an interesting account of psorospermiasis. Dr. Osler believes that psorosperms probably play a more important *rôle* in human pathology than has hitherto been thought.

There are many other features in this work to which we would fain draw attention, but the foregoing remarks will sufficiently indicate its scope and value as a reliable text-book of Medicine. There are scarcely any misprints or blemishes in spelling. "Empyæma," however, occurs at page 129, although ἐμπύημα is met with more than once in the writings of Hippocrates. "Aneurism" is less

correct than "aneurysm," while anchylostoma (pages 289 and 1,090) is certainly wrong, the word being derived from ἀγκύλος, *crooked, curved,* or *rounded.*

In conclusion, we heartily recommend Dr. Osler's book to practitioners and students of medicine. In its pages will be found a mine of medical information and a vast storehouse of medical knowledge.

Army Medical Department Report for the Year 1895. With Appendix. Volume XXXVII.

The average annual strength dealt with in this Report was 200,681. Calculated on a strength of 204,592, "which includes detached men," the admission-rate was 993·20, the death-rate 8·16 per 1,000. The public, unprofessional as well as professional, is slowly waking up to a conviction that "something must be done"—and something must be undone—in order to destroy the pre-eminence in venereal diseases of the British Army. Year after year we and our medical contemporaries draw attention to this scandal—so far without practical effect. Once more we state the facts. The mere statement ought to be sufficient. We quote the following, referring to the United Kingdom, from the Report:—

"Taking together all forms of venereal diseases the admissions numbered 17,346, and the constantly sick 1525·52. The total ratios, therefore, were for admissions 173·8, and for constant inefficiency from these diseases 15·28 per 1,000, showing decrease as compared with the foregoing year of 8·6 and 1·14, and below the average rates for the preceding nine years by 42·0 and 1·99 respectively. England and Wales alone gave admission and constantly sick rates of 186·6 and 16·65, as compared with 197·5 and 18·19 for the previous year, and with 228·2 and 18·55, the preceding nine years' average. The ratios in Scotland were 130·1 and 9·19 per 1,000, below those in 1894 by 41·7 and 2·93, and also below the average rates by 29·7 and ·92 per 1,000. In Ireland the total admission ratio was 141·0 and the ratio of constant inefficiency 11·98 per 1,000, both being higher than in the previous year by 1·3 and ·09, but in comparison with the average rate there is a decrease in the admission ratio of 47·7 and in that of constantly sick of 2·69 per 1,000."

Turn we to India, with an average strength of 68,331

"warrant officers, non-commissioned officers and men." In India, it will be remembered, the local authorities are prevented by House of Commons' intermeddling from adopting effectual means for the staying of the plague. Here is the result:—

"Taking all these forms of venereal disease together, the ratio of admission amounts to 536·9 per 1,000, which is more than that of the preceding year by 25·2, and in excess of the average rate by 127·6, while for constantly sick the ratio was 46·31, representing a loss of 3164·84 men to the efficient strength of the force from these diseases, higher than the rate in 1894 by 3·17, and above the average by 14·39.

"The Principal Medical Officer states that at some stations these diseases were extremely prevalent, the following being instances of high admission rates for all forms of venereal diseases combined:—Nowgong, 1013·5; Cawnpore, 967·6; Indore, 901·0; Calicut, 887·9; Dinapore, 847·0; Shahjahanpur, 834·4; Jhansi, 816·8; Malapuram, 816·3; Shwebo, 785·9; Poona, 775·2; Fyzabad, 766·0; Ranikhet, 746·8; Bareilly, 716·2; and Mhow, 703·2. There were, in addition to the above, 20 other stations at which the admission rate exceeded 600 per 1,000 of strength. Lamentable as are the foregoing figures they understate, as regards secondary syphilis, the amount of inefficiency due to that form of disease, as in several stations men were treated by hypodermic injections of mercury without admission to hospital. Many medical officers report that the type of disease was very severe, the following being extracts from some of their reports:—'The syphilitic cases were of a most virulent type, and in most instances the health of those attacked was markedly impaired . . . . The course of many acute diseases was materially directed by syphilis. . . . . Many cases of ulcer of penis were accompanied by suppurating buboes, which often proved most intractable to treatment during the hot weather. . . . . Primary syphilis and gonorrhœa were often followed by large indolent or suppurating buboes; the latter were of frequent occurrence. . . . . The average duration of each case was 27 days, equivalent to a total loss to the service of 6 per cent. of the strength for 12 months. . . . . The type of the disease appears to have increased in severity. . . . . The type of syphilitic affections appears to be getting worse. Primary sores are more prone to take on sloughing action. Rupial ulceration and the prevalence of syphiloma are greater than formerly. . . . . As far as the efficiency of the army is concerned, if

we judge from Bangalore, it is most seriously sapped by syphilis and its concomitants. A large proportion of men are ineffective in hospital, and a large proportion still in the ranks are able to get through their duty with constant visits to hospital under peace conditions, but would break down at once on field service, and encumber and hamper field hospitals.'"

Thus, a force of, approximately, four regiments, for which the people of India are compelled to pay, is rendered inefficient, because some busy-bodies at home object to the means by which the ravages of these diseases were held in check.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Ninety-eighth Session, held at Baltimore, Md., April, 1896. Also Semi-Annual Session, held at Belair, Md., Nov., 1895; and Special Memorial Meeting in Baltimore, Dec. 14th, 1895. Pp. 143.

The greater part of the contents of this book are of merely local interest. There are two addresses—one by Dr. Charles G. Hill, the President of the Faculty, who is Professor of Diseases of the Mind and Nervous System in Baltimore Medical College; the other by Professor Solomon Solis Cohen, M.D., a Philadelphia physician, selected to deliver the Annual Address. The latter, which the author entitled "Some Thoughts concerning Disease and Recovery in their relation to Therapeutics," does not call for any remark. Dr. Hill's paper records his experience of treatment of insanity by thyroid feeding; and his results are so remarkable as to deserve notice:—

"The experiments were made on a wide range of subjects, from the acute forms of mania and melancholia to the long-abandoned dement; but the bulk of the cases were those of dementia under fifty years of age and of not too long standing. Very severe tests were also made in cases of acute mania and recent melancholia, by suddenly dropping all medication given for the purpose of quieting the excitement of the one, and relieving the melancholy delusions of the other—a proceeding quite liable to precipitate either form into a decided relapse. The results of the treatment may be summed up as follows:—Unimproved, 8. Improved, 12. Greatly improved, 14. Cured, 5. Died, 1. Total, 40."

We select for transcription one most interesting case of dementia treated by thyroid feeding.

"Mrs. G., a young married woman. aged about thirty. Seven years ago she was admitted to Mt. Hope as a case of acute mania, and in spite of all treatment relapsed into dementia within twelve months. Two years afterwards, on being told that her case was hopeless, her husband removed her to another institution as a matter of economy. Three years later, the finances of the family having improved, she was returned to Mt. Hope the same silent, helpless dement as when she left, and up to the beginning of the thyroid treatment, two years afterwards, remained in this condition. She was as helpless as an infant, dirty in her habits, had to be dressed and undressed, and taken to and from the dining-room. The effect of the thyroid treatment with her was magical. She was talking the next day, dressed and undressed herself the second day, cleaned up her room the next morning, and asked for some work to keep the time from hanging heavily on her hands. Though the treatment has been discontinued she continues to slowly improve. I can readily understand why her cortical brain substance, which has been so long unused, cannot be at once restored to its full functional activity, but I believe that the re-awakening of her mental faculties will, like exercise to a long-disused muscle, gradually restore its function by re-clothing her atrophied brain cells and expelling the insipid and useless interstitial deposits by which they have been so long clogged. I am watching the return of memory, judgment, will-power, &c., with no little interest."

It was observed that elevation of temperature, varying in degree and in period of onset in different patients, followed the administration of five to ten grains of the thyroid three times a day. The temperature ranged up to 104°; averaging 99·5°

The pulse rose also (sometimes to 150), and the depressing effect upon the heart often led to discontinuance of the treatment. In conclusion, Dr. Hill suggests that, at least some forms of insanity being of toxic origin, other antitoxins besides thyroid and its products may be discoverable. He points to the well-known beneficial effects upon insanity of the paludal and the typhus infections, and infers "that further observation on the result of thyroid feeding and the influence of certain infectious diseases in the cure of insanity, coupled with the rapid advances being made in

bacteriology, may open up a field for pathological research that will lead us to the discovery of a toxine and antitoxine for insanity."

The Swedish System of Physical Education: Its Medical and General Aspects. Expanded from a Paper read before Members of the British Medical Association. By THEODORA JOHNSON, Principal of the Swedish Institute, Clifton, Bristol. With 27 Illustrations. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.; Hirschfeld Bros., 82 High Holborn. 1897.

THE authoress, who evidently writes *con amore*, is an enthusiast as well as an adept in the subject which she undertakes to teach. We are told in the preface that "the following pages have been published in response to the request of medical friends." The nucleus of the æsthetically-prepared booklet before us has been derived from the paper referred to in the title; but it has been found necessary "to remodel and extend the limits of the paper, embodying somewhat more of the results of nearly twelve years' experience of this work in England and of observations made in Sweden."

The writer has given in very clear language the essential features of the "Swedish system of physical training," which "represents the life work of Pehr Henrik Ling, Member of the Royal Academy of Sciences, Stockholm." We cordially recommend the subject to the attention of our readers, as it appears to be based on sound physiological principles, and as we are told that "the treatment is eminently successful when applied to lung diseases—in early stages of asthma and consumption, and, as a preventive measure, to strengthen lung tissue and increase the vital capacity where an inherited tendency to these may exist; to diseases of the digestive system and discomfort arising from flatulence, constipation, and so on; in nervous cases, such as the various phases of hysteria, chorea, paralysis, and neuralgia; in joint diseases, such as rheumatism, gout, synovitis, stiff joints, sprains, and dislocations; and in cases of general want of tone, as anæmia, sleeplessness, and debility. Proof of this statement may be

found in the results of a few such cases, which having (with one exception) been treated by the writer, and being medically attested . . ." This is, truly, "a large order," comprehensive of a considerable subsection of the physical ills of life! We believe the *principles* of the system to be thoroughly sound, and look forward to further recognition of its practice in this country.

The Royal University of Ireland: The Calendar for the Year 1897. Dublin: Alexander Thom & Co. 1897. 8vo. Pp. 461.

Examination Papers, 1896: *A Supplement to the University Calendar for the Year* 1897. Dublin: Alexander Thom & Co. 1897. 8vo. Pp. 650.

THESE two volumes contain all the information which is needed by candidates for degrees in the Royal University of Ireland. They are, as usual, well brought out, but it is too late for the Calendar for 1897 to appear in the month of April. The copy for review reached us on the 23rd of that month. At pages 200, 201 will be found the changes in the Medical Courses and Examinations which will apply in 1898. They are not many or important.

Traité de Therapeutique et de Matière Médicale: Contenant les Principes de la Nosologie Naturelle de la Prophylaxie et de la Pharmacologie. Après les Leçons Professsées a l'Hotel-Dieu de Paris. Par VICTOR AUD'HOUI, Directeur de la Bibliothéque Aldine Médecin de l'Hotel-Dieu; Professeur Particulier de Thérapeutique et d'Hydrologie Médicale, Médecin des Eaux de Vichy. Paris: G. Steinheil, Éditeur, 2, Rue Casimir-Delavigne. 1897.

THIS is a really excellent volume, full of concentrated information—a great deal of which is tinted by the original observations of the author. As usually occurs in high-class scientific French literature, as in the high-class cookery of the same nation, the material offered is not only the best of its kind procurable, but is served up in the most easily assimilable form. We have before us, in the present instance,

a beautifully-printed octavo volume, of xxxv and 1,114 pages, from which we would not have a single sentence struck out. We have met with very few scientific manuals of which we could conscientiously assert so much.

It would be mere idle pretence to attempt to criticise so vast an amount of material in detail. As already intimated the general impression is most favourable; and we most warmly recommend Dr. Aud'Houi's book to the notice of every student of therapeutics.

The Feeding of Infants. By EDMUND CAUTLEY, M.D., Physician to the Belgrave Hospital for Children. London: J. & A. Churchill. 1897.

THIS is a most excellent book, and Dr. Cautley has gone to a very great amount of trouble and personal investigation by research in order to give us a thoroughly scientific *résumé* of the present state of our knowledge on the feeding of infants and young children. There are few subjects more difficult to write upon. To those unacquainted with the subject it may seem simple; but the more one investigates it the more obscure does it seem, for difficulties are for ever presenting themselves. There are several most valuable lessons in the work. "The Micro-organisms in Milk and their Destruction;" "The Characters of Cow's Milk and the Milk Supply;" "Proprietary Foods and their Value," are wonderfully well treated. It is most extraordinary how little people, and often even medical men, know about milk. A perusal of some of Dr. Cautley's pages will show the reader the depth of the subject he treats of. There is a first-class index, which is very reliable and most valuable. Dr. Cautley has given us the entire subject well up to date; and as an example of his study of other workers in the same direction he tabulates these authors in a list, which number 197. There is a valuable appendix on Diet for Children. After a careful perusal we notice only one small error or slip. On page 172, in his excellent list of substitutes for milk, the reader is referred back for "Meig's Mixture" to Table LVII. We think this is a slip for LI. on page 148. This is a slight thing indeed, and

we merely call attention to it as the only trace of inaccuracy in the whole volume.

On the "Feeding of Infants" there is no better book we know of; and, moreover, it is beautifully printed and of a convenient size. It is, of course, most useful to those who devote special attention to the peculiar diseases of children.

Formulaire des Médicaments Nouveaux pour 1897, par H. Bocquillon-Limousin, pharmacien de 1re classe, lauréat de l'École de pharmacie de Paris. Introduction par le Dr Huchard, médecin des hôpitaux. 1 vol. in-18 de 338 pages, cartonné. Librairie J.-B. Baillière et Fils, 19, rue Hautefeuille (près du boulevard Saint-Germain), à Paris.

This useful little work may best be described as the French analogue of Martindale's "Extra-Pharmacopœia." The edition of 1897—the seventh—contains a large number of new remedies recently introduced into therapeutics, but few of which have so far found a place in any other formulary, however up-to-date. We may instance particularly:—Actol, airol, amygdophénine, antinosine, apolysine, argonine, benzacétine, bismal, bromure d'hémol, caféinate de fer, chloralose, citrophène, cuprohémol, éosote, eucaïne, eudoxine, ferripyrine, ferrostyptine, gallicine, gélante, glutol, glycérophosphates, hémogallol, hémol, hypnoacétine, iodates métalliques, iodoformine, itrol, kola, lysidine, myronine, nosophène, nutrose, orphol, phosphergot, pipérosine, pixol, protogène, pyrantine, quinosol, salantol, salipyrine, salithymol, salophène, sanoforme, somatose, sublimophénol, tannalbine, tannoforme, tannigène, thiosinnamine, urotropine, xéroforme, etc.

Guy's Hospital Reports. Vol. LII. 1896.

The opening paper is a 104-page In Memoriam notice of Arthur E. Durham; it is rather discursive (witness the tales of juvenile pronouncements on the Devil, which are tacked on to a very ordinary remark of Durham's in early

childhood), and the personality of the subject is kept rather in the shadow, but the essay is eminently readable, and is a pleasant picture of the life and work of a surgeon at Guy's.

Dr. Frederick Taylor has an interesting case of shingles followed by paralysis of the abdominal muscles, followed by partial improvement, probably from hypertrophy of the unaffected muscular fibres. Dr. Taylor also reports some interesting cases of cirrhosis of the liver in children.

Most of the other contents are interesting clinical papers.

A Practical Manual of Diseases of Women and Uterine Therapeutics. By H. MACNAUGHTON JONES, M.D., &c. Seventh Edition. London: Baillière, Tindall & Cox. 1897. Crown 8vo. Pp. 909.

WE remarked on a former occasion, when reviewing this book, that an author did not require any journalistic aid to make a work which had already passed through so many editions popular with the public. It nevertheless is our duty to say what we think about the works submitted to us, and we could wish that the task was at all times as pleasing a one as in the present instance.

The edition before us is in every respect ahead of its predecessors, and is undoubtedly the most up-to-date work of the kind that has so far been published in England. It affords a concise, readable, and, for the most part, accurate account of gynæcological teaching as it obtains in all the more important clinics throughout the world, and those unacquainted with the enormous progress made within the past ten years in this branch would do well to closely study the book.

The author's illustrations and diagrams are worthy of special notice. Being clear and distinct, they leave no room to doubt the idea intended to be conveyed by them. Some wood-cuts representing gynæcological couches and tables are antiquated, and might, with benefit, have been omitted, while others which are good, as in Fig. 27, have unfortunately no indication of the maker's name marked

on them. Others again—such as the galvanic stems, the plates representing the introduction of a sound by touch and not by sight, as also the author's speculum designed to throw the reflection of the cervix on to a screen—give a strangely out-of-date appearance to the book, and might well have been omitted.

For the first time Dr. Macnaughton Jones has grappled with the very difficult subject of asepsis in operations, and he clearly points out that there is no safety without absolute cleanliness. It is curious to note how slowly prejudices die, for even in this modern work we find the author again asserting that pelvic peritonitis may arise from the passage of a cold sound into the uterus, and to obviate such danger a plug of warm wadding should be placed in the vagina after any tedious manipulation with that instrument.

It is quite unnecessary to go through this work in a *seriatim* manner, as was done by us on a former occasion, but it will suffice to say that while the former edition was lamentably behind the times as regards advances made in the methods of abdominal and vaginal operations, a similar reproach cannot be urged against the author in the present instance. The operations he now describes are not new-fangled innovations, but are those which have been for the most part extensively practised within the past three years, and have aided enormously in the lessened mortality that now obtains in abdominal surgery.

Fifty-four Consecutive Ovariotomies. By A. C. Butler-Smythe, F.R.C.S. Ed., F.R.C.P. Ed. London: J. & A. Churchill. 1897. 8vo. Pp. 119.

An operator who can boast of performing fifty consecutive ovariotomies without a death may well be pardoned for writing a short work on the subject.

The book can be read with profit by all, for the author is no slave to authority, and throughout his operations often departs from the rules laid down with so much dogmatism by many abdominal surgeons.

Carefulness in the matter of detail and simplicity of his surroundings appear to us to be what he most of all aims

to attain. Thus—"The room in which the operation is to be performed must be well lighted, scrupulously clean, and far removed from any water-closet or bath-room. It should be large enough to contain two beds, a cupboard, washstand, two tables, and a couple of chairs. My usual habit is to have it thoroughly disinfected with sulphur before each operation. Nothing in the way of eatables should be kept in the room, and, if possible, the nurse will have her meals elsewhere, as the smell of cooked food is objectionable to most sick persons."

It will be seen, by the above that the author does not attach much importance to the elaborate operating rooms which are now generally held as materially diminishing the mortality after abdominal sections.

Again, we note that he advises opium per rectum in the event of restlessness, or pain being suffered from. He strongly advocates the enlarging of the abdominal wound in the event of difficulty being experienced in the bringing the tumour out.

A quinine enema (grs. 15) is advised for the relief of flatus, and many other methods of treatment will be found novel and of interest to those who have not devoted particular attention to this branch of surgery.

The Menopause and its Disorders. By A. D. LEITH NAPIER, M.D., F.R.C.S. Ed. London: The Scientific Press. 1897. Royal 8vo. Pp. 307.

WE may surely exclaim that there is no end to Specialism in medicine. Hardly does a branch of this science dissever itself from the parent trunk than it, in its turn, tends to subdivide into what we are only permitted for the present to call "terminal branches."

To illustrate our meaning, our readers are referred to the volume before us. It is a large and handsomely got up work, copiously supplied with micro-photographic plates, and entirely devoted to a subject which usually is relegated to a short chapter in the modern gynæcological books.

Save as regards the causes of menstruation, the author does not claim any originality for the information afforded

in the work. His endeavour has rather been to collect and summarise the views of the leading authorities who have treated of this too much neglected subject. In doing this he has displayed an amount of erudition and painstaking research, which absolutely guarantees the success of the work.

Dr. Napier's views as to the causes of menstruation do not appear to differ sufficiently from those of Mr. Tennison Collins to warrant any but the latter's name being associated with them. They are summarised as follows:— (1.) Congestion of the genital organs must be considered the result, not the cause, of the beginning of the menstrual process. (2.) This congestion is more marked in women than apes. (3.) "Chemical changes occur in the blood." "These chemical changes are due to general and special metabolism, and cannot be regarded as the cause of the nervous irritation." (4.) Ovulation is not the cause of menstruation; it may and does occur independently. (5.) Menstruation is not the cause of ovulation. (7.) Ovulation and menstruation are to some extent interdependent. (8.) It is not proved that menstruation depends on one special menstrual nerve. (9.) The uterus is highly endowed with nerves, and is greatly influenced by these nerves. (10.) A nerve centre governing menstruation is an essential factor for the process, and its excitation is due to peripheral irritation.

Dr. Napier, of course, does not pretend that all these observations have originated with him, but for some of them he claims sponsorship, and we shall leave our readers to say how many of them may be conceded as being genuinely his, and shall at once proceed to glance at the ground covered in the work.

The theories of menstruation are dealt with in Chapter I.; its anatomy in Chapter II.; physiological considerations claim the author's attention in Chapter III. Here it is mentioned that the "ovaries are glands which secrete a special substance, and exercise a special metabolic influence by aiding the periodic flow," and "that gland secretions given in certain morbific conditions act in restoring what is lacking in the system." Few now doubt these assertions,

and we regret that the author has not more definite information to give as to the actual benefit which may with some certainty be expected to follow the administration of ovarian extract in disorders of the menopause.

Chapter IV. enters fully into the normal change of life, and Chapter V. deals with the disorders attending that condition. Here we are afforded sufficient information in regard to drugs and their applicability to satisfy the aspirations of the most enthusiastic therapeutist.

In dealing with the influence of the menopause on fibroids the author's experience is similar to that of Baldy, Hegar, Tait, and a host of other observers. He writes: "It is a grave responsibility to assume that every case of fibroid will become ameliorated at the menopause." As regards treatment, hysterectomy is advised, but occasionally therapeutic measures may give relief. Of these ergot and strychnin take a foremost place, and to these hydrastis canadensis may be added.

"Thyroid extract appears to have a resolvent action on the soft adenoid tumour (the soft red fibroid), which is the most usual variety found increasing at and after menopause."

Malignant disease, as it affects both the body and the cervix of the uterus, next receives the author's attention.

Ovarian tumours and uterine displacements in elderly women bring us to the end of this very interesting book, and we may congratulate ourselves that so comprehensive a work is within our reach.

A Practice of Midwifery. By LLOYD ROBERTS, M.D., F.R.C.S. Ed., &c. Fourth Edition. London: Churchill & Co. 1896. Crown 8vo. Pp. 585.

THIS work has been so long before the medical public, and is now so well known and appreciated, that the reviewer feels he may be pardoned if he does not enter into its merits in so full a manner as its appearance in a first edition would necessitate.

Roberts' Midwifery has always enjoyed the confidence of the student. It is sufficiently compact to satisfy the

requirements of a man anxious to obtain a good working knowledge of this branch of his profession with a minimal amount of reading, and at the same time its general accuracy makes it a useful work of reference to be placed in the library of the busy practitioner.

The work that we are considering in appearance does not much depart from its predecessors, but is brought up to date by special chapters on Antiseptic Delivery, Symphysiotomy, Different Methods of Transfusion, &c.

Anatomy and Embryology are considered in the first five chapters. These occupy 126 pages, so that it is apparent that the author has not glossed over this portion of his work.

The chapter dealing with the early signs of pregnancy is disappointingly curtailed, and does not take account of the numerous valuable signs which within the past ten years have been made known to the profession.

For those who have been educated in the Rotunda Hospital much of the advice afforded in this book must be considered heterodox. It is advised to express the placenta from the uterus at the end of twenty minutes, as one might squeeze a lemon. Sponge-tents, vaginal plugging, and separation of the lower zone of the placenta is the treatment advocated to combat the dangers of placenta prævia.

In *post-partum* hæmorrhage it is advised to insert the hand into the uterus before a trial is made of a hot antiseptic douche. Why the cart is put before the horse in this manner we fail to comprehend. From a common-sense point of view it must occur to all that the more reasonable method would be to try the less dangerous antiseptic douche in the first instance, for even should it fail to control hæmorrhage it will go far towards asepticising the passages, and so rendering the subsequent introduction of the hand a less perilous proceeding. But these and many other views which we note are only instances of the radical differences that obtain as to the proper conduction of midwifery at the end of the nineteenth century.

The work is brought out at the moderate price of 10s. 6d., and, on the whole, can be recommended as a good one.

In concluding, we have to remind the publishers that a

professional man's time can be occupied with greater profit than in cutting the leaves of Roberts' "Practice of Midwifery."

Vita Medica: Chapters of Medical Life and Work. By SIR BENJAMIN WARD RICHARDSON, M.D., LL.D., F.R.S. London: Longmans, Green, & Co. 1897. Pp. 496.

IT is not often that an autobiography carries its author's life to its last page, but Sir Benjamin had finished his "Vita" but two hours when he was seized by the illness which terminated fatally two days afterwards. A curious parallel is related by the author: Dr. John Snow, the leading practitioner in anæsthesia, "died rather suddenly, at the comparatively early age of forty-five years, on June 8th, 1859. His last work was the preparation of a book on 'Chloroform and other Anæsthetics,' and, singularly, the last word he wrote was 'Exit.'"

In these chapters of medical life Sir Benjamin gives a wonderfully clear and interesting account of the life of a medical student, an assistant, and a practitioner half a century ago; and from beginning to end are frequent word portraits, lightly touched in, of men whose names deserve to be recorded in a medical Pantheon; and of incidents of practice—grave or gay.

Take the following conversation overheard by the author in a house in Russell-square soon after he settled in London:—

"'Has the doctor seen Rebecca?'

"'Oh yes, ma'am! and we have only to send to the dispensary for the medicine.'

"'What sort of man is he, and how did he come? Did he drive?'

"'Oh! I think you'll like him, ma'am; but—poor devil!—he is only a walking doctor yet.'"

The revolution caused by the discovery of anæsthetics has often been sketched, but never more lightly and yet more vividly than by the author, who was not only a spectator of the change, but also an earnest worker

striving to render the new process more accurate and less dangerous.

Throughout the book many of Sir Benjamin's original researches are mentioned; and in order to give a clear view of their purpose and results, the development of each is given a paragraph to itself, and is traced from its first conception to the place where its author left it; in many cases suggestions are added as to the directions where younger observers may hope to advance the researches. Amongst these researches may be mentioned: The lethal chamber, studies on the blood, researches on local anæsthesia, and vital phosphorescence; in the latter the author succeeded in making eggshell artificially—an experiment exceeded in interest only by the rapid artificial manufacture of fossils, which the author accomplished by pressure and superheated steam; an experiment which threw an entirely new and unexpected light on the problem of the time wanted for geological changes.

A curious story is told of one of Sir Benjamin's best known literary successes. When asked to preside over the Health Section of the Social Science Congress at the Brighton meeting of 1875, he wrote a Presidential Address, but fearing it might be thought too imaginative for the Association he wrote a second address on "The Statistics of Death Rates." When the meeting came he was still undecided what to do, and carried both addresses in his pocket. As he entered the dome the late Dr. Patrick Stewart met him, and said the company were worn out with statistics, and if he had nothing better to give them he had better set the example of going home! "Not a syllable more was wanted. I took the chair, and delivered the address long so well known as 'Hygeia: a Model City of Health.'"

The Battle with Alcohol is a chapter of great interest, as it shows how the author was brought up to believe in the pleasantness and use of alcohol, and that it was by the result of experiments, designed for a different object, that the fallacies underlying commonly-received theories of its uses were discovered. The greatness and singleness of the author's character is shown by the fact that, having

once discovered these fallacies, he continued and published his researches, in spite of the hostility and illwill evoked. The account given in the book of the professional troubles that his new views brought upon him is written without bitterness; but it was written at a time when the hostility had been lived down, when his teaching was widely known, and when his very views about alcohol had re-lifted him into eminence; and so we can realise how much bitterer the trial must have been at the time than it was when he came, after the lapse of many years, to review it.

The researches on alcohol commenced in a curious way. The author believing that alcohol raised temperature instituted a series of experiments to measure the amount of the increase caused by measured quantities of alcohol. To his surprise there was no increase, but an actual decrease of temperature, and he laid this fact before the British Association in 1866. It was thought that he must have been mistaken in his methods, and his report was handed back for correction.

Further investigation proved his experiments to be correct, and he was led on to further researches, all of which showed that alcohol was not a stimulant but a narcotic, that it caused degenerations, and that the well-known failures caused by large quantities of alcohol varied but in degree from the effects of small quantities. The result of these researches were given to the public in the celebrated Cantor Lectures, and the author never saw reason to change the views there enunciated. "Alcoholic degenerations," "alcoholic phthisis," and alcohol a "temporary shroud," are some of the terms which the author passed into common circulation.

The book is beautifully printed, large fresh type and good paper being used. Here and there is a misprint, such as "carnivorous"—the first word of page 270—instead of "herbivorous;" but such mistakes are wonderfully rare considering that the author did not live to correct the proofs.

Sir Benjamin's last wish is a reflex of his kindly mind—"The wish that I could have done much more and much better for my day and generation, so as to have helped to turn this earth into a garden, with all races of one colour;

all men and women brothers and sisters, with the beautiful lower animals as their companions; with their high roads through the skies and their paths on the floors of the seas."

Cycling as a Cause of Heart Disease. By GEORGE HERSCHELL, M.D., Lond.; Senior Physician to the National Hospital for Diseases of the Heart, &c., Soho-square; late Physician to the West End Hospital for Diseases of the Nervous System. London: Baillière, Tindall & Cox, 20 King William-street, Strand. 1896.

WE welcome the warning note sounded by Dr. Herschell on the subject of one of the most prominent movements of our progressive age:—"We fall in love with the machine, with its easy and agreeable motion; we give as much of our time to it as we can afford; we get rid of our dyspepsia, and, in its place, produce chronic degenerative changes in our heart and arteries." The author speaks sensibly and truly of the dangers of this insidious form of "over-exertion"—for such it very much tends to become. The enthusiast cyclist seldom seems to know when to stop. With regard to the question of cycling for the young, the author tells us—in italics:—"When we allow a child to ride long distances upon a cycle we are carrying out a physiological experiment which, although possibly of interest from a scientific standpoint, must be utterly unjustifiable."

The deleterious effects of this seductive form of exercise on the heart, vessels, and system generally, are pointed out with great force and clearness. We cordially recommend the booklet to the notice of all practitioners.

Extraction of the Teeth. By J. F. COLYER, L.R.C.P., M.R.C.S., L.D.S., &c. London: C. Ash & Sons, Ltd. 1896.

A CAREFUL perusal of the contents of this small work will convince anyone acquainted with the subject that the author has expended much thought, and brought to bear a ripe experience, upon the matter in hand. Scientific

extraction of teeth is indeed a desideratum when such an operation is unfortunately called for, and how to attain to this has been clearly put by Mr. Colyer.

Excellent drawings of modern English forceps, as suited to the individual teeth, are given, with lucid descriptions of how to use them. Such difficulties as occasionally arise during or after extraction are briefly yet concisely discussed, and the methods of treating same are considered. The author points out the so-far unsatisfactory results obtained from the use of the *local* anæsthetics now to hand; many practitioners will, we think, quite agree with him—perchance *eucaine* may prove more reliable. We believe that anyone interested in the subject must, on reading this short series of notes, carry away with him much practical information. Clear printing and good illustrations, with neat binding, go to complete a very handy pocket volume.

LEPROSY IN NEW SOUTH WALES.

THE Report for 1895 of the N.S.W. Board of Health upon the administration of the Leprosy Act was laid on the table of the Legislative Assembly in Sydney, on November 5th, by the Premier. At the beginning of 1895, 40 persons remained under detention at the lazaret. During the year 10 persons were reported to the Board as being suspected lepers, and three of these were eventually admitted to the lazaret. The number of deaths during the year was five, and one patient was discharged. This patient was admitted in 1888, when only 14 years of age, and from the time he fell under observation his symptoms gradually receded, until, so says the report, as far back as two or three years ago little remained but some deformities. These were evidence, not of active disease, but of disease which had existed, and which had caused the mutilations during the bygone time of its activity. . . . . The number remaining in the lazaret at the end of the year was, therefore, 37. Of these, 16 were whites—four of them being females—while the remaining 21 were members of various coloured races. The total number of patients admitted since 1883, when the first patients were received, is 58—*Australasian Med. Gaz.*

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—James Little, M.D., F.R.C.P.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—Lombe Atthill, M.D.
Sectional Secretary—Dr. F. W. Kidd, M.D.

Friday, January 8, 1897.

The President in the Chair.

Exhibits.

Dr. W. J. Smyly showed five myomatous uteri which he had removed by abdominal panhysterectomy. One patient had died of pulmonary embolism on the twenty-second day. Up to that time she had made an excellent convalescence, and had been up and about for three days before this accident occurred. Shortly after getting into bed she was suddenly seized with orthopnœa and died in an hour from the onset of symptoms. A *post-mortem* examination confirmed the diagnosis of pulmonary embolism. The other patients went out well.

His method was as follows:—When the tumour was exposed it was drawn out of the abdomen by two instruments resembling cork-screws. The broad ligament was transfixed at one side. and its two ends were tied—the one near the uterus and the other near the wall of the pelvis—and the ligament was then divided between the two. Passing down through the cellular tissue of the broad ligament the uterine arteries were searched for and tied as low down as could be reached. The same process was repeated at each

side, and then the two arteries were divided. All hæmorrhage was in that way prevented during the rest of the operation, which consisted in making a transverse incision across the front of the cervix, pulling down the bladder and then cutting out the uterus. When the uterus was removed the mucous membrane of the vagina was stitched and the peritoneum was closed above by sutures. He had found the operation to be not a difficult one.

Dr. Alfred Smith showed—(1) A large malignant papilloma of the ovary which he removed from a married woman aged thirty-five. A few days before her admission the patient slipped and recovered herself with a sudden effort; this caused a pain in the right side, which soon passed off; however, the pain returned on the third day following the injury, and became very severe and was accompanied by a rise of temperature and local tenderness. There was a difficulty in diagnosis owing to inability to separate the tumour from uterus. Abdominal section revealed cyst, contents filling abdominal cavity and an infiltration of the broad ligament by the spreading of the papillomatous growth. The tumour is the size of a sixth-month pregnant uterus, and shows a rent in its lower segment through which a large sprout of a cauliflower-like growth projects. The cyst being papillomatous, the query is, will it return by an infection of the peritoneum from the cyst contents? Recovery uninterrupted. (2) Two sub-peritoneal fibro-myomata which he removed from a young married woman; the indications were great local tenderness over tumour and inability of patient to stoop so as to perform her household duties. Recovery rapid. (3) Two small ovarian glandular cystomata, removed from patients aged respectively twenty-three and nineteen. Recovery.

Dr. Smyly said he remembered a case in which ovariotomy was performed by Dr. Kendal Franks for papillomatous disease, and the disease recurred in the cicatrix of the wound.

Dr. F. W. Kidd exhibited an intra-ligamentous cyst, about size of goose egg, which he had removed from a patient aged forty-two. Menstruation was frequent and excessive. Uterus was retroflexed and could not be replaced on account of this tumour. Tube seemed stretched out over this tumour, which contained quite clear fluid. Patient made an excellent recovery.

Three Cases of Ectopic Gestation, with Exhibition of the Specimens in two of the Cases.

Dr. F. W. Kidd brought forward the notes of Three Cases of Ectopic Gestation. [They will be found at p. 193.]

Notes of a Case of Ruptured Tubal Pregnancy.

Dr. Alfred Smith read a paper entitled "Notes of a Case of Ruptured Tubal Pregnancy." [It will be found at p. 37.]

Pyometra with Pregnancy in the Second Horn of a Uterus Bicornis.

Dr. Barry read a paper entitled "Pyometra with Pregnancy in the Second Horn of a Uterus Bicornis," of which the following is an abstract:—The patient, aged twenty-three, unmarried, was admitted to The National Maternity Hospital on August 17th, 1896, complaining of severe pains in the right side. Menses at all times irregular and painful, but complete amenorrhœa since May last—three and a half months. Was in "Mater Hospital" in 1893 under Surgeon Hayes, complaining of pain in right side, when he removed the right ovary. After above history, following conditions noted:—Breasts are large, full, and nipples prominent, areola darkened with secretion in breasts. Abdomen enlarged and irregular in outline; on palpation two tumours readily made out—one to right side, quite hard, immovable, considered a fibroid tumour; the second to left, a pregnant uterus. Vaginal examination, orifice quite patulous and congested; on digital examination a large tumour is found filling up the pelvis, cervix high up and to left side, tumour in pelvis continuous with cervix. Vaginal examination modifies previous diagnosis—tumour right side now looked upon as a fibroid, tumour to left side as extra-uterine or a pregnancy in a bicorned uterus. Patient kept in hospital under observation for a fortnight with the result that the fœtal heart was heard night before operation. On September 5th, 1896, patient having been put under ether, an incision was made in line of cicatrix of former opening. The tumour to right side was found firmly bound down by dense adhesions which were with difficulty broken down, and tumour brought through abdominal opening, pedicle found and tied with twisted silk ligature, tumour cut away, pedicle pared, stitched over and dropped in. No difficulty experienced in removing left pregnant horn. Abdominal wound closed, no drainage used. The patient made a perfect recovery, the temperature only on two occasions reaching 100° F.—once on the day of operation and, again, on the eighth day when the abdominal stitches were removed. After removal of stitches some purulent matter escaped through one of lower stitch wounds, and continued doing so for some days. The vaginal tumour was aspirated and four ounces of pus removed, with the result that the vaginal tumour practically disappeared.

The case presents many features of interest; first of all, the diffi-

culty in making a diagnosis—having to deal with three tumours, and an ovariotomy having been already performed. Dr. C. J. Cullingworth has described an exactly similar case without the pregnancy in the left horn, in a paper read by him before the American Gynecological Society, in May, 1893, and fully reported in the June number of the American Journal of Obstetrics for that year. He has gone exhaustively into the subject, quoting many interesting cases. I may mention that the silk ligature, used in tying pedicle of right horn, came away per vaginam four weeks after operation.

Dr. McWeeney's report on specimens—

1. Fœtus 20 cm. long, attached by umbilical cord to placenta. The placenta projects slightly from os internum and is attached to fundus and posterior part of uterus; the ovary is of large size and contains a large corpus luteum and several small cysts. The Fallopian tube is healthy.

2. The uterine wall is 3 cm. ($1\frac{1}{3}$-inch) thick. The mucous membrane in a purulent and shreddy condition. Near fundus is a soft polypoid growth, about the size of a half-a-crown.

On microscopical examination of this polypoid growth it is found to be a polymorphous cell sarcoma—a very peculiar structure and very distinct in its nature from the smooth muscle from which it springs.

The PRESIDENT said Dr. Smith's case very clearly exemplified the advantage of an early operation, whilst one of Dr. Kidd's cases illustrated the unfortunate result of a postponement. Of course a diagnosis had first to be made, but the moment that was arrived at, his opinion was, and had always been, that the sooner the operation was performed the better, and that irrespective of whether the case seemed favourable or unfavourable for it. Dr. Barry's case of pregnancy in one horn of a uterus was a very interesting one. Dr. Barry stated that in his case the fœtal heart was heard very early. He (the President) never knew of the fœtal heart being heard until towards the end of the fifth month. In one of Dr. Kidd's cases the pregnancy lasted for nearly twelve months. That reminded him of a case which came under his notice in his early days of the wife of a well-known man in Dublin who was a patient of the late Dr. Evory Kennedy. He pronounced her pregnant, but she did not enlarge, and Dr. Kennedy's opinion was scouted. He (the President) also maintained that she was pregnant. She did not give birth to a child, but suffered a great deal of pain, and at the end of fifteen years she expelled the fœtal bones.

Dr W. J. Smyly said that not very long ago ectopic gestation was regarded as a very rare thing, but now the frequency of its occurrence was remarkable. During his late Mastership of the Rotunda he saw a great number of cases of ruptured tubal pregancy, and he operated in more than a dozen cases of it. It was a great mistake to wait for collapse to pass off before proceeding with an operation. Collapse was the result of the spouting of a severed artery. The duty of the surgeon was then to stop the hæmorrhage, and the moment the artery was tied the patient recovered. Whilst the artery was spouting the heart "raced" like the screw of a steamer when it was out of the water, and collapse ensued. Another question of interest was as to the proper line of treatment to be pursued when there were hæmatoceles. If the hæmatocele was not a large one his practice was not to interfere with it, because in the great majority of such cases absorption took place, and the patient got well. But in two of his cases putrefaction of the hæmatocele occurred, and though he performed section, and washed the hæmatocele out, it was too late. If they waited until the blood putrefied an operation was of no use, and, therefore, if the hæmatocele were of any size, the safer course was to open the abdomen at once and clear it out. The most interesting cases were those in which the child went to the full term; he had met with a case in which the child died at the full term, and he removed it afterwards, but, generally speaking, the child was not alive any where near the term, or beyond the sixth month. His opinion was that it was dangerous to the life of the mother in such cases to wait for the arrival of the full term in the expectation of obtaining a living child. The risk to the mother was enormous, and, generally speaking, such children did not live beyond a month. In one case, in which there was a large six-months fœtus, there was no putrefaction; in another case, which ended fatally, the child had escaped into the abdomen, and became adherent to the intestines. In other cases there was no putrefaction, and he was able to extirpate the cyst. As to drainage, he did not think it advisable.

Mr. Heuston said that he had the pleasure of assisting Dr. Kidd in the two more recent of his cases. When assisting at the case in which the period of gestation was twelve months, the point which struck him most was the nature of the sac within which the fœtus was enclosed, as it presented the usual appearance when the abdomen was opened, of gravid uterus or fibro-myoma, except that it was intimately adherent to the anterior parietal peritoneum. This was particularly puzzling to him, as in the only other case

of ectopic gestation which had gone on for a long period in which he had assisted at the operation, the fœtus was perfectly free within the peritoneal cavity, there being no evidence of a sac. This case he would mention more fully as he believed it had not been recorded. It was the case of the late Master of the Coombe Hospital, and the time which elapsed from the first evidences of gestation was eighteen months. On the abdomen being opened the fœtus, evidently a full term one before its death, was floating in a serous fluid free within the abdomen, and there was no evidence of putrefaction. The placenta was found to be intimately attached to the dorsal aspect of the uterus, extending well into the pouch of Douglas. After the removal of the fœtus, a question arose as to whether this should be separated and removed at once or not, and Sir Spencer Wells, who happened to be present, was asked his opinion, but declined to give advice, stating that he had never met with such a case. An attempt was then made to separate it, but as it proved to be very adherent, and had a tendency to bleed, it was decided to allow it to remain in the hope that it would separate itself. With this object, its peripheral portion was stitched to the abdominal wound, closing off the general peritoneal cavity from the wound, and in about a fortnight it came away without any difficulty, and the patient eventually made a perfect recovery. When the fœtus was examined, subsequent to removal, it was covered by a calcareous capsule about as thick as an egg shell. In reference to Dr. Kidd's third case, the thing which struck him most was the rapid recovery of the patient from the profound state of collapse she was in prior to the operation. He concurred in the generally expressed opinion of the gynæcologists at that meeting as to the necessity of early operation in such cases.

Dr. F. W. Kidd (in reply) said in reference to the question of drainage, and in connection with the first of his three cases, that if he should have to operate again in such a case, he would try to drain through the vagina instead of through the abdomen. They would remember that in his account of the case he said he thought there was a double rupture, viz., a primary one of the broad ligament, and another of the consequent hæmatocele through the lacerations of the broad ligament itself; and it was thought that as they could not close those lacerations there might have been hæmorrhage afterwards from some points, which produced collapse, and turned the scale against the woman. In that case there was so much laceration of the tissue, and the lacerations were so much concealed by thick, clotted blood, like black currant jelly, that there was no way of dealing with them. If there was a clean

rupture of the tube, they might leave as much blood as they liked in the peritoneum; but if the broad ligament itself was injured, lacerations of it could not be dealt with unless the blood was cleared away. As to what Mr. Tobin had said in reference to the last case, the woman left the operating table in a better condition than when she was placed on it, and that was entirely due to the stimulus of the saline solution, the volume of which made up for the blood that the patient had lost, and gave the heart something to work on.

Dr. Alfred Smith (in reply) referred to Professor Martin's, of Berlin, method of operating *per vaginam*, and said that he was glad that Dr. Smyly was coming round to the opinion of operating at once. There was no danger in operating at once, but great danger in leaving the case over. They could not tell whether absorption or putrefaction would take place. As to drainage, he had drained all the cases of the kind that he had dealt with, and they all recovered; but he thought drainage *per vaginam* unsatisfactory and had not practised it. As to Dr. Barry's case he (Dr. Smith) had the greatest difficulty in arriving at a diagnosis; but one feature which struck him was the transparency of the distended horn when exposed. It was like a little balloon, but after the escape of the *liquor amnii* it contracted.

Dr. Smyly explained that he would not be in favour of operating by vaginal method with a patient in a state of collapse. He had drained in some cases and not in others, and in both the patients got on equally well.

Dr. Alfred Smith said his practice was to drain if the peritoneum had been badly treated during the operation.

The President said he could not understand vaginal draining unless the vagina had been opened for the purpose of removing the uterus; nor could he understand a vaginal operation being preferred to one through the abdominal wall.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—Johnson Symington, M.D.

Sectional Secretary—A. Birmingham, M.D.

Friday, February 5, 1897.

The President in the Chair.

Note on the Organic Sulphates of the Urine.

Dr. Coffey read a note on the organic sulphates of the urine. These sulphates are compounds of certain organic bases—phenol, indol, skatol, kresol, &c., which arise in the alimentary canal from the putrefactive decomposition of proteids. As such putrefaction is of normal occurrence, they appear in normal urine, where they form about one-tenth of all the sulphates present. As is well known, they are considerably increased in diseases in which there is deficient absorption, or diminished secretion of hydrochloric acid in the gastric juice—conditions which are accompanied by increased putrefactive change. From a clinical point of view they are of importance, inasmuch as they are an accurate index of the amount of putrefaction in the alimentary canal. Many physicians, however, appear to be content with demonstrating the presence of one of these sulphates, viz., indican, in such cases, but as there is no fixed relation in the quantity of this substance to that of the total of organic sulphates, this method is not satisfactory. The sole method by which we can correctly determine the amount of putrefactive change is by estimating the ratio of organic sulphates to total sulphates (organic and inorganic) present. This view is established by the results of the cases now reported. The urine of a patient suffering from dilatation of the stomach was examined and gave a yield of ·35 gram., ·36 gram., and ·355 gram. organic sulphates in 1500 c.c. urine, forming in each case about one-eighth of the total sulphates. In these cases the indican appeared to be present in very small quantities, the reaction to Jaffe's test being very feeble. The method followed in estimating the sulphates was Salkowski's. An analysis of the HCl. in the gastric juice, made at the same time by Dr. Dempsey, showed a diminution to one-fourth of the normal.

Dr. Purser thought such observations of great importance, as indicating the amount of putrefaction in the intestine. He thought that it was rather the proportion of the conjugated to the total sulphuric acid than the absolute amount of the former which was

important. He usually followed the method of Baumann in the estimation.

Dr. McWeeney said that without questioning the importance of the issues that might be decided by the determination of the relation between preformed and conjugate sulphates, he thought the operation too complicated for general clinical purposes. The estimation of indican yielded results that would in most cases prove sufficient. He found that nitric acid acted more efficiently than the hypochlorite in causing the separation out of indigo blue. In his opinion the latter substance was a sufficiently accurate measure of the amount of intestinal putrefaction, so that it was unnecessary to resort, save in rare instances, to the major operation of determining the preformed and the ethereal sulphates.

Dr. Coffey, in reply, said that he found Jaffe's test for indican satisfactory enough, but that he thought his cases established the view that this particular organic sulphate might not be notably increased, while the gravimetric method indicated a distinct increase in the total of organic sulphates as compared with all the sulphates of the urine. The reason why a diminution in the HCl. of the gastric juice should lead to increased putrefaction in the intestine was connected with the destructive action of the acid on bacteria.

Photographs of Early Human Embryos.

Dr. A. Francis Dixon exhibited a number of lantern slides illustrating early human embryos. The first slides illustrated an unopened chorionic sac, measuring 8 mm. × 7 mm. × 3 mm., the probable age of which was estimated at fourteen days. The flattening of the sac was assumed to be due in great part to shrinking of the decidua by which it was surrounded when first obtained by Dr. Murphy. The greater part of the sac was covered all over by short, stout, slightly branched villi. Over one pole, however, there was a bare area of small size. The presence of this bare area and the size of the sac would fix the age of the ovum at 14 days. This determination agreed sufficiently well with the history of the case from which it was obtained. The second series of slides illustrated the external anatomy of two embryos of 22–23 days. In one the amnion and yolk sac had been removed, while the other was photographed through the amnion, and the yolk sac was in position. Finally, three photographs were shown of an embryo of 33–34 days. In this last embryo the photographs displayed not only the external markings on the embryo itself, but also gave a good view of the allantoic and vitelline arteries.

The PRESIDENT asked Dr. Dixon what preservative he used for the embryos. He himself had found corrosive sublimate the most satisfactory.

DR. BIRMINGHAM inquired as to the method in which the photographs were taken.

DR. DIXON, in reply, said he had always used methylated spirits for preserving his human embryos. Nitric acid was best for preserving fowl embryos. In photographing, the specimens were placed in glass cells with dark bottoms, the cells were completely filled with spirits, and the cover slided on, so as to exclude all air bubbles. Special care had to be taken with the lighting.

The Applied Anatomy of the Rectum.

DR. EDWARD H. TAYLOR made a communication upon the applied anatomy of the rectum, which he illustrated by lantern slides, of frozen sections, and of dissections specially prepared to illustrate the structures met with in perineal and sacral excision of the rectum. Dr. Taylor, for the most part, followed the description of the rectum given by Treves, who places its upper limit at the level of the third sacral vertebra. Between this point and the termination of the descending colon, the large intestine formed a single loop, embracing what is usually described as the sigmoid flexure and the first stage of the rectum. This piece of intestine has been termed the Omega loop from its fancied resemblance to the Greek capital of that name. The portion of the loop with its mesentery in the iliac fossa Dr. Taylor would term the iliac colon, and the portion with its mesentery in the true pelvis the pelvic colon.

Having demonstrated the principal relations of the rectum in both sexes, he referred to its sphincteric apparatus, which is constituted by the two sphincters and the levatores ani muscles. The latter were shown, and the rôle played by them as rectal sphincters pointed out. It was evident, from the antero-posterior direction taken by the fibres of these muscles by the sides of the rectum, that in contracting they compressed the bowel laterally. In proof of this statement Dr Taylor mentioned that if the finger were introduced into the rectum in the living subject, both the extent and the tonicity of the anal canal (sphincteric zone) could be well determined. It was possible to appreciate a deep and a superficial contracting zone. The latter was certainly due to the external sphincter, whereas the former was evidently caused by the levatores ani, whose contractions were both voluntary and sudden, thus differing from the internal sphincter, which contracted slowly and independently of the will.

In perineal excision of the rectum, Dr. Taylor laid stress upon the importance of always making an attempt, even when the sphincteric zone of the rectum had to be removed, to re-construct a modified sphincteric apparatus, and showed how this might be done, by carefully preserving as much of the levatores ani muscles as possible, and afterwards connecting them with the healthy end of the gut by a series of deep sutures.

The applied anatomy of sacral excision was then considered, and illustrated by photographs of dissections.

The PRESIDENT was glad to see that Dr. Taylor had emphasised the distinction between two parts of the rectum—the sphincteric and the supra-sphincteric areas; he (the President) would go further, for he held that they were functionally and anatomically distinct—the former was capable of acting as a reservoir, while the latter, which he had called the anal canal, was not. While he agreed with Dr. Taylor as regards the sphincteric action of the levatores ani, he thought it would be very difficult clinically to distinguish between the action of the external sphincter and the levator, which practically ran into one another, as seen on coronal section through the anal canal. He was not quite satisfied that the internal sphincter was purely an involuntary muscle, Undoubtedly, the gluteus maximus and ischio-rectal pads of fat assisted in the closure of the anus. He approved Dr. Taylor's proposal of preserving and utilising the levatores ani in excisions of the rectum, in order to secure its assistance as a sphincter.

DR. BIRMINGHAM expressed the opinion that the internal sphincter was not a real functional sphincter of the anus at all. The anal canal is merely an antero-posterior slit, with its lateral walls in contact; a contraction of the internal sphincter which surrounds this passage, and has no fixed attachment, would tend rather to relax than to close the canal. Its use was to force the fæces through the canal during defæcation. The levatores ani, he believed, were the chief sphincter, and they were placed in the most advantageous position for their action to be effective—namely, at the very beginning of the anal passage; a sphincter lower down would be less effective. The explanation of the very slight change of the reflexion of peritoneum from rectum to bladder, brought about by distension of the bladder, was to be found in the fact that the base of the bladder was practically unaffected by distension.

DR. PURSER said that, judging by the analogy of the bladder, in which the so-called sphincter muscle at the neck was certainly not the true sphincter, but was used for expelling the last drops, while the true sphincter was of striped muscle lower down, he was

inclined to agree with Dr. Birmingham's view of the nature of the internal sphincter. It had been shown that, even after removal of the spinal cord, the external sphincter preserved its tone and underwent rhythmic contraction, which would seem to show that it had a regulating nervous mechanism within itself.

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—J. M. Redmond, M.D.

Sectional Secretary—Ninian Falkiner.

Friday, February 19, 1897.

The President in the Chair.

The Present State of the Typhoid Question.

Dr. McWeeney gave an account of some of the most recent researches into the distribution and identification of the typhoid bacillus. He dealt, in the first instance, with the results obtained by Cartwright Wood in his recent experimental investigation of the relation between oysters and the typhoid bacillus. The matter might be summed up as follows:—The specific bacilli can remain alive for lengthened periods in sea water, though without multiplying. They can remain alive for lengthened periods in the oyster-fluid, though not in the interior of the oyster itself. At somewhat warm temperatures they can multiply in the fluid of the oyster, and this may happen after removal of the mollusc from the sea during the storage-period that precedes consumption. One could not but subscribe heartily to Dr. Wood's proposition that "the only principle which can be applied with safety to this question is to judge the sea water as we should a drinking-water, and to condemn all oysters which originate from beds subject to more or less recent contamination."

The other research which he desired to lay before them was more recent still—published in the current number of the *Annales de l'Institut Pasteur* by Drs. Remlinger and Schneider, of the French Army Medical Department. Their object was to ascertain whether the typhoid bacillus occurred in nature apart from cases of the disease. They employed Elsner's method for the raw material—soil, water, and fæces of non-typhoid patients—and, in addition to the eleven characters relied upon by Lösener in his previous paper, they applied the serum-test by bringing serum from a horse

immunised against Eberth's organism, in contact with the organism under examination. With the same object they used the serum of typhoid patients. Finally, they inoculated suspected cultures into guinea-pigs with and without protective serum injections. Only when the suspected organism reacted precisely in the same way as typical typhoid bacilli under the same circumstances did they consider the identification complete. Bacilli answering all the above tests were isolated from various samples of drinking water, soil, and fæces of patients who had never had typhoid fever. They saw themselves obliged to conclude that the typhoid bacillus is extremely diffused in our midst, and needs only favourable circumstances, such as temporary individual vulnerability, in order to effect a lodgment in the human system. Attacks and epidemics may therefore originate, so to speak, *de novo*—that is, without connection with any previous case of the disease, which amounted to a reinstatement of Murchison's views.

In conclusion, the speaker demonstrated naked-eye reactions of typhoid serum on the specific bacilli. Tubes prepared by Wright's method were handed round, showing the precipitation of the bacilli by serum from a typhoid patient, whilst a central tube treated with a similar amount of non-typhoid serum was turbid owing to the diffusion of the mobile organisms.

Dr. J. W. Moore said that he noticed two points in Dr. McWeeney's paper—first, the power of oysters to communicate the germs of various diseases, as of septicæmia, malaria, and perhaps erysipelas, &c. He believed that all clinical physicians knew that the eating of oysters was connected with cases that certainly were not altogether cases of typhoid fever, and that were often accompanied by diarrhœa, high temperature, &c. He had seen two cases of what he called "oyster fever;" one was the case of a physician who had eaten oysters, and in two or three days got symptoms which ended in a fever which certainly was not typhoid. The patient recovered in about a fortnight, having had elevation of temperature, &c. Two other cases occurred at the same time. The patients were a lady and a gentleman who ate oysters, and were attacked during the night with vomiting. The gentleman recovered in a week with a little fever, but the lady died. He believed that oysters were capable of conveying many diseases. The second point he noticed in the paper was the *de novo* theory of typhoid and typhus, and on this point he had never been able to agree with Murchison. He believed that in typhoid fever, possibly the spores resisted very largely the action of heat, cold, &c., and might be called into sudden activity by certain favouring circum-

stances. There was no doubt a micro-organism of typhus, although it had not been discovered, and it was possible that it had a wide-spread distribution, and might also be called into action by favouring circumstances.

Dr. Green (Army Medical Department) said he would like to ask Dr. McWeeney what effect sea water had on the cholera bacillus.

Dr. Parsons thought the fact stated by Dr. McWeeney with regard to the extreme prevalence of the typhoid bacillus, that in seven out of ten samples of soil, typhoid bacillus should have been isolated by the two French experimentalists, was a very astounding one. He should like to ask Dr. McWeeney what his own opinion on the matter was. He (Dr. McWeeney) had probably made several experiments himself, and he (Dr. Parsons) believed that Dr. McWeeney had not isolated typhoid bacillus on the ground of the Richmond Asylum. It was a very difficult matter to isolate typhoid bacillus out of water. Again, if in patients who were suffering from typhoid fever typhoid organisms occurred even in sufficient numbers to be isolated, it was no easy task to isolate them; but the two French scientists had succeeded in isolating the bacillus from people who had not had typhoid at all. He would like to know if Dr. McWeeney had been able to satisfy himself that the soil did abound with the micrococci of typhoid fever.

Dr. Grimshaw, Registrar-General, said that Dr. McWeeney had mentioned some of the soils from which the typhoid bacillus had been obtained as having been in Paris. Now, Paris was infected with typhoid fever, and one would expect the typhoid bacillus to be easily got in that city. Had the bacilli been obtained in country districts outside Paris, where the disease was not prevalent? Dr. McWeeney had said that in some places there had been what might be called sporadic cases of typhoid fever. He (Dr. McWeeney) had found the bacillus in drinking-water in a great many places where one might expect to find it. He would like to know if Dr. McWeeney was himself convinced that the French investigators had calculated on the chances of discovering the typhoid bacillus which prevailed in large cities. He (Registrar-General) had seen a considerable number of attacks of typhoid fever which he attributed to the eating of oysters. Practically, everyone knew that the consumption of oysters would produce gastro-intestinal symptoms of various descriptions, similar to typhoid fever.

Dr. Horne said it was an important clinical fact, that in Dublin typhoid, as a rule, made its appearance in an epidemic type generally about September 1st, when the oyster was usually being

consumed in the city. Again, about the 1st of January there was a decrease in typhoid fever. If the bacillus were so numerous as that it existed in the soil, one would expect the fever to be present the whole year round.

Dr. McWeeney, in reply, said that Dr. Moore's remarks were very interesting. Dr. Moore had referred to the spores of typhoid bacillus, but he (Dr. McWeeney) thought that the typhoid bacillus did not form any spores. With regard to Dr. Green's question on the effect of sea water on the cholera bacillus, the effect was practically the same as on the typhoid bacillus. Dr. Parsons had asked if he (Dr. McWeeney) was of the same opinion as the French experimentalists. Well, he (Dr. McWeeney) did not question their results, because they had worked very diligently and with very great detail, and he thought that their results had been honestly arrived at. It was well known that the tetanus bacillus was very widely distributed. With regard to the Registrar-General's remarks about the soil, Drs. Remlingen and Schneider had found the bacillus in soil which was not in the vicinity of cases of typhoid. In patients who had not had typhoid fever, and who were not suffering from the disease at the time, the bacilli had been found, and his audience might draw their own conclusions. He, himself, had had a good deal of experience in attempting to isolate the typhoid bacillus, and he had on many occasions found a bacillus, which closely resembled it in many of its reactions. He believed that bacilli bearing a very close resemblance to typhoid bacilli were everywhere around us.

The Section then adjourned.

HAFFKINE'S ANTIDOTE.

In the December issue of the *Indian Medical Gazette* Surgeon-Captain E. Christian Hare reports results of Dr. Haffkine's protective treatment upon a gang of 357 Khasia coolies, at Margherita in Assam. They landed at Dibrughar, apparently in good health, on the 16th of October. On the following day 198 were inoculated, with the "first vaccine;" on the 23rd, 179 of these were re-inoculated; 171 (including 12 policemen), remained uninoculated. Cholera of a severe type broke out on the 18th; of 38 attacked, 34 died. Of the inoculated 4 (2·04 per cent.) were attacked; all fatally. Of the unprotected, 21·38 per cent. were attacked. 18·87 died. In one group of 52 living together in the same sheds, in 36 inoculated there was one case fatal; in 16 not protected, there were 11 attacks, all fatal.

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SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. Moore, B.A., M.D., Univ. Dubl.;
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Vital Statistics

For four Weeks ending Saturday, March 27, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Mar. 6	Mar. 13	Mar. 20	Mar. 27		Mar. 6	Mar. 13	Mar. 20	Mar. 27
Armagh -	0·0	14·9	49·1	56·1	Lisburn -	17·0	17·0	21·3	17·0
Ballymena	22·5	33·8	22·5	22·5	Londonderry	40·8	31·4	33·0	29·8
Belfast -	30·4	31·9	30·8	27·2	Lurgan -	41·1	41·1	27·4	31·9
Carrickfergus	23·4	5·8	35·1	11·7	Newry -	28·2	24·1	20·1	36·2
Clonmel -	9·8	29·3	102·5	29·3	Newtownards	22·7	11·3	34·0	39·7
Cork -	34·6	35·3	33·9	31·8	Portadown -	74·2	30·9	30·9	18·6
Drogheda -	7·6	15·2	15·2	34·2	Queenstown	28·7	34·4	17·2	11·5
Dublin -	44·1	38·6	39·5	34·5	Sligo -	25·4	55·8	45·7	25·4
Dundalk -	20·9	16·8	16·8	20·9	Tralee -	33·6	16·8	28·0	28·0
Galway -	26·4	22·7	22·7	34·0	Waterford -	13·9	25·9	13·9	17·9
Kilkenny -	33·0	28·3	18·9	23·6	Wexford -	22·6	18·1	27·1	45·2
Limerick -	23·9	29·5	23·9	23·9					

In the week ending Saturday, March 6, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 17·4), was equal to an average annual death-rate of 18·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·9 per 1,000. In Glasgow the rate was 27·2. In Edinburgh it was 24·4.

The average annual death-rate represented by the deaths registered during the week in the twenty-three principal town districts of Ireland was 34·3 per 1,000 of their aggregate population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 6·2 per 1,000, the rates varying from 0·0 in fourteen of the districts to 12·4 in Portadown—the 12 deaths from all causes registered in that district comprising 1 from measles and 1 from diarrhœa. Among the 164 deaths from all causes registered in Belfast are 10 from measles, 5 from whooping-cough, 3 from enteric fever, and 3 from diarrhœa. The 50 deaths in Cork comprise 7 from measles and 2 from diphtheria. Among the 7 deaths in Galway are 2 from diphtheria. The 4 deaths in Carrickfergus comprise 1 from measles and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 241—109 boys and 132 girls; and the registered deaths to 303—140 males and 163 females.

The deaths, which are 103 over the average number for the corresponding week of the last ten years represent an annual rate of mortality of 45·2 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 44·1 per 1,000. During the first nine weeks of the current year the death-rate averaged 40·9, and was 8·7 over the mean rate in the corresponding period of the ten years 1887–1896.

The deaths from zymotic diseases amounted to 87, being 22 over the number for the preceding week, and 67 in excess of the average for the 9th week of the last ten years. They comprise 44 from measles—being an increase of 10 as compared with the number in the preceding week, and 1 over the number in the week ended February 20, 1 from Rötheln (German measles), 4 from scarlet fever (scarlatina), 8 from influenza and its complications, 21 from whooping-cough (against 12 in the preceding week and 16 in the week ended February 20), 7 from enteric fever, and 3 from diarrhœa. Of the 87 deaths from zymotic diseases 68 were deaths of children under 5 years of age.

The number of cases of measles admitted to hospital was 80, being a decline of 43 as compared with the admissions in the preceding week, and 42 under the number for the week ended February 20. Sixty-two measles patients were discharged, 3 died, and 260 remained under treatment on Saturday, being 15 over the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which had fallen from 42 in the week ended February 13 to 18 and 11 in the two following weeks respectively, rose to 18. Nine patients were discharged, 3 died, and 131 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week. This number is exclusive of 20 convalescents at Beneavin, Glasnevin.

Only 4 cases of enteric fever were admitted to hospital, being 2 under the admissions for the preceding week. Eleven patients were discharged, and 35 remained under treatment on Saturday, being 7 under the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 62, being 1 under the number for the preceding week, but 12 over the average for the 9th week of the last ten years. The 62 deaths comprise 27 from bronchitis, 29 from pneumonia, and 2 from croup.

In the week ending Saturday, March 13, the mortality in thirty-three large English towns, including London (in which the rate was 18·4), was equal to an average annual death-rate of 18·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·1 per 1,000. In Glasgow the rate was 25·7, and in Edinburgh it was 19·6.

The average annual death-rate in the twenty-three principal town districts of Ireland was 32·9 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·9 per 1,000, the rates varying from 0·0 in seventeen of the districts to 10·2 in Sligo—the 11 deaths from all causes registered in that district comprising 1 from typhus and 1 from diarrhœa. Among the 172 deaths from all causes registered in Belfast are 11 from measles, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 4 from diarrhœa. The 51 deaths in Cork comprise 6 from measles and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 208—89 boys and 119 girls; and the registered deaths to 262—117 males and 145 females.

The deaths, which are 48 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 39·1 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 38·6 per

1,000. During the first ten weeks of the current year the death-rate averaged 40·7, and was 8·5 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 67, being 46 in excess of the average for the corresponding week of the last ten years, but 20 under the number for the previous week. The 67 deaths comprise 43 from measles—being 1 under the number from that disease in the preceding week—2 from scarlet fever (scarlatina), 1 from German measles, 1 from influenza, 9 from whooping-cough, 1 from diphtheria, 1 from enteric fever, 5 from diarrhœa, and 1 from erysipelas. Of the 67 deaths from zymotic diseases 55 were of children under 5 years of age.

The weekly number of cases of measles admitted to hospital which had fallen from 123 in the week ended February 27 to 80 last week, further declined to 61. Eighty-two measles patients were discharged, 7 died, and 232 remained under treatment on Saturday, being 28 under the number in hospital on that day week.

Eighteen cases of scarlatina were admitted to hospital, being equal to the admissions in the preceding week. Twenty-seven patients were discharged, 2 died, and 120 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week. There were, besides, 19 convalescents at Bencavin, Glasnevin.

Ten cases of enteric fever and 3 of typhus were admitted to hospital, against 4 cases of the former and 2 of the latter disease received during the preceding week: 40 cases of enteric fever and 9 of typhus remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 65 deaths, being 3 over the number for the preceding week, and 11 over the average for the 10th week of the last ten years. The 65 deaths comprise 41 from bronchitis and 18 from pneumonia.

In the week ending Saturday, March 20, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 18·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·3 per 1,000. In Glasgow the rate was 24·4, and in Edinburgh it was 20·6.

The average annual death-rate represented by the deaths registered in the twenty-three principal town districts of Ireland was 33·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 5·7 per 1,000, the

rates varying from 0·0 in fourteen of the districts to 11·7 in Carrickfergus—the 6 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 166 deaths from all causes registered in Belfast are 2 from measles, 1 from typhus, 8 from whooping-cough, 2 from diphtheria, 4 from enteric fever, and 2 from diarrhœa. The 49 deaths in Cork comprise 6 from measles. Among the 21 deaths in Londonderry are 2 from scarlatina. Two of the 9 deaths in Sligo were from measles. The 6 deaths in Newtownards comprise 2 from whooping-cough. The Registrar for Carrickfergus district remarks: "Measles and whooping-cough prevalent."

In the Dublin Registration District the registered births amounted to 189—103 boys and 86 girls; and the registered deaths to 271—133 males and 138 females.

The deaths, which are 68 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 40·4 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 39·5 per 1,000. During the first eleven weeks of the current year the death-rate averaged 40·7, and was 8·7 over the mean rate in the corresponding period of the ten years 1887–1896.

Deaths from zymotic diseases, which had fallen from 87 in the week ended March 6 to 67 in the following week, rose to 80, which number is 59 in excess of the average number of deaths from diseases of this class in the corresponding week of the last ten years. The 80 deaths consist of 46 from measles—being 3 over the number from that disease in the preceding week—1 from German measles, 2 from scarlet fever (scarlatina), 4 from influenza and its complications, 20 from whooping-cough (against 9 for the preceding week), 2 from enteric fever, 4 from diarrhœa, and 1 from remittent fever. Of the 80 deaths from zymotic diseases 65 were of children under 5 years of age.

There has been a further decline in the number of cases of measles admitted to hospital, the admissions falling to 49, or 12 under the number for the preceding week, 31 under that for the week ended March 6, and 74 under the number for the week ended February 27. Eighty measles patients were discharged, 3 died, and 198 remained under treatment on Saturday, being 34 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 10, being 8 under the admissions in each of the two weeks preceding. Eighteen patients were discharged, and 112 remained under treat-

ment on Saturday, being 8 under the number in hospital on that day week. There were, besides, 19 convalescents under treatment at Beneavin, Glasnevin.

Thirteen cases of enteric fever were admitted to hospital, against 10 in the preceding week and 4 in the week ended March 6. Seven patients were discharged, 1 died, and 45 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered is 49, being equal to the average for the corresponding week of the last ten years, but 16 under the number for the previous week. The 49 deaths comprise 27 from bronchitis and 15 from pneumonia.

In the week ending Saturday, March 27, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 18·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·6 per 1,000. In Glasgow the rate was 23·1, and in Edinburgh also it was 23·1.

The average annual death-rate in the twenty-three principal town districts of Ireland was 30·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 5·2 per 1,000, the rates varying from 0·0 in seventeen of the districts to 9·7 in Dublin. Among the 147 deaths from all causes registered in Belfast are 6 from measles, 1 from scarlatina, 3 from whooping-cough, 1 from diphtheria, 7 from enteric fever, and 1 from diarrhœa. The 46 deaths in Cork comprise 7 from measles and 3 from whooping-cough. The 19 deaths in Londonderry comprise 1 from whooping-cough and 1 from diarrhœa. The Registrar for Cork No. 3 District remarks—"Measles very prevalent, but of a mild type;" and the Registrar for Carrickfergus reports—"Measles and whooping-cough prevalent."

In the Dublin Registration District the registered births amounted to 194—111 boys and 83 girls; and the registered deaths to 242—111 males and 131 females.

The deaths, which are 31 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 36·1 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 34·5 per 1,000. During the first twelve weeks of the current year the

death-rate averaged 40·3, and was 8·4 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 71, being 9 under the number in the preceding week, but 48 over the average for the 12th week of the last ten years. They comprise 1 from small-pox, 37 from measles—a decline of 9 as compared with the number from that disease registered in the preceding week—1 from scarlet fever (scarlatina), 1 from typhus, 1 from influenza, 19 from whooping-cough, 1 from diphtheria, 2 from cerebro-spinal meningitis, and 7 from diarrhœa. Of the 71 deaths from zymotic diseases 59 were of children under 5 years of age. The death from small-pox is that of a girl aged 7 years. The Registrar's return does not show whether she had been vaccinated.

The decline in the weekly number of cases of measles admitted to hospital noted in the returns for some weeks past has not continued, the admissions amounting to 71, against 49 in the preceding week and 61 in that ended March 13. One hundred and seven measles patients were discharged, 2 died, and 160 remained under treatment on Saturday, being 38 under the number in hospital on that day week.

Twenty-four cases of scarlatina were admitted to hospital, against 10 in the preceding week and 18 in the week ended March 13. Twenty-eight patients were discharged, and 108 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week. This number is exclusive of 20 convalescents at Beneavin, Glasnevin.

The number of cases of enteric fever admitted to hospital was 8, being 5 under the admissions in the preceding week. Eleven patients were discharged, and 42 remained under treatment on Saturday, being 3 under the number in hospital on that day week.

The hospital admissions also included 3 cases of typhus. Ten cases of this disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 65 for the week ended March 13, to 49 in the following week, further declined to 36, or 17 under the average for the corresponding week of the last ten years. The 36 deaths comprise 18 from bronchitis, 14 from pneumonia, and 3 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20 N., Long. 6° 15′ W. for the Month of March, 1897.

Mean Height of Barometer, - - -	29·543 inches.
Maximal Height of Barometer (on 7th, at 9 a.m.)	30·081 „
Minimal Height of Barometer (on 2nd, at 11 p.m.), - - - - -	28·771 „
Mean Dry-bulb Temperature, - -	43·8°.
Mean Wet-bulb Temperature, - -	41·3°.
Mean Dew-point Temperature, - -	38·3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·234 inch.
Mean Humidity, - - - -	82·0 per cent.
Highest Temperature in Shade (on 21st), -	61·6°.
Lowest Temperature in Shade (on 30th), -	29·0°.
Lowest Temperature on Grass (Radiation) (on 30th), - - - - -	26·9°.
Mean Amount of Cloud, - - -	60·8 per cent.
Rainfall (on 24 days), - - -	2·980 inches.
Greatest Daily Rainfall (on 11th), - -	·735 inch.
General Directions of Wind, -	S.S.W., S.W., W

Remarks.

Like March, 1896, this was a changeable, wild and rainy month, with a cyclonic distribution of pressure. During the first half temperature was low. A warm spell followed, but temperature again fell briskly on Sunday, the 28th, and the month closed cold and ungenial. Compared with February, the mean temperature showed a falling off of one degree Fahr. Nothwithstanding, the progress of vegetation was very rapid, and on the last day the trees presented quite a vernal appearance.

In Dublin the arithmetical mean temperature (45·3°) was about two degrees above the average (43·1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 43·8°. In the thirty-one years ending with 1896, March was coldest in 1867 and 1883 (M. T.=39·0°), and warmest in 1893 (M. T.=48·1°), and in 1868 (M. T.=47·3°). In 1896 the M. T. was 46·1°.

The mean height of the barometer was 29·543 inches, or 0·373 inch below the corrected average value for March—namely, 29·916 inches. The mercury rose to 30·081 inches at 9 a.m. of the 7th, and fell to 28·771 inches at 11 p.m. of the 2nd. The observed range of atmospheric pressure was, therefore, 1·310 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 43·8°, or 1·3° below the value for February, 1897. Using the formula, *Mean Temp.* = *Min.* + (*max.*—*min.* × ·485), the M. T. becomes 45·1°. The arithmetical mean of the maximal and minimal readings was 45·3°, compared with a twenty-five years' average of 43·1°. On the 21st the thermometer in the screen rose to 61·6°—wind, S.W.; on the 30th the temperature fell to 29·0°—wind, calm. The minimum on the grass was 26·9° also on the 30th.

The rainfall was 2·980 inches, distributed over 24 days. The average rainfall for March in the twenty-five years, 1865–89, inclusive, was 2·061 inches, and the average number of rainy days was 16·5. The rainfall, therefore, and also the rainy days, were considerably above the average. In 1867 the rainfall in March was very large—4·972 inches on 22 days. On the other hand, the smallest March rainfall was ·288 inch on 8 days in 1893. In 1896, 3·310 inches fell on 23 days.

The atmosphere was more or less foggy in the city on 2 days—viz., the 21st and 30th. High winds were noted on 19 days, reaching the force of a gale on nine occasions—the 4th, 11th, 12th, 14th, 17th, 19th, 22nd, 24th, and 26th. Snow or sleet occurred on the 1st, 3rd, 4th, 9th, 12th, and 14th; and hail fell on the 1st, 3rd, 5th, 10th, 12th, 28th, and 29th. The temperature exceeded 50° in the screen on 14 days, compared with 21 days in 1896, 13 in 1895, 22 in 1894, 26 in 1893, only 7 in 1892, 9 in 1891, and 19 in 1890. It only once fell below 32° in the screen. In March, 1892, frost had occurred in the shade on as many as 16 nights. The minima on the grass were 32°, or less, on 9 nights, compared with 8 nights in 1896, 10 in 1895, 12 each in 1894 and 1893, 25 in 1892, 20 in 1891, and 16 in 1890. The thermometer once rose to 60° in the screen, but never failed to reach 40°. In March, 1892, the thermometer did not rise to 40° in the screen on 9 days. Solar halos were seen on the 9th, 11th, 25th, 27th, and 30th. Lunar halos appeared on the 8th, 13th, and 18th. Thunder was heard on the 17th, lightning was seen on the 1st and 3rd.

Cyclonic conditions, and very rough, cold, changeable weather held over North-western Europe throughout the period ended Saturday, the 6th. On Sunday, February 28, an atmospheric depression had advanced quickly from S.W., passing along the western shores of Ireland and Scotland and causing squally, showery weather. At 8 a.m. of Monday, the 1st, this disturbance was central off the N. of Scotland. Fair intervals and passing showers of cold rain or sleet and hail prevailed during the day, and at

night snow fell in the W. of Ireland. Early on Tuesday morning a dense sheet of cirro-stratus cloud overspread the sky as a much larger and deeper depression approached the British Isles from S.W. The centre of this cyclonic system travelled across Wales and Central England during the following night, and was found over Yorkshire and Lincolnshire on Wednesday morning, when the barometer was down to 28·54 inches at York and 28·52 inches at Spurn Head. Violent S.W. to W. gales blew in France, Belgium, and the S. of England. Hail and sleet squalls, accompanied by thunder and lightning in some districts, swept across Ireland and Scotland. On Thursday morning the disturbance was found over Denmark, where it was rapidly filling up; but another deep depression had already reached the N.W. of Ireland from the Atlantic. A renewal of the gales and showers resulted from the approach of this new disturbance, and thunderstorms again occurred in several places. On Friday the weather began to moderate and Saturday was a fine, dry, and sunny day. In Dublin barometric pressure increased from 28·771 inches at 11 p.m. of Tuesday (wind, W.S.W.) to 30·045 inches at 9 p.m. of Saturday (wind, N.W.). On Tuesday the screened thermometers fell to 33·9°, on Saturday they rose to 50·8°. The rainfall was ·600 inch on five days, ·351 inch being measured on Tuesday. W. and W.S.W. winds prevailed. Lightning was seen on Monday and Wednesday.

The week ending Saturday, March 13, was very broken—cold, rainy, and stormy. Only Sunday was fine throughout, but on several days there were fine intervals. A violent rainstorm occurred on Thursday evening, and much snow fell on the Dublin and Wicklow mountains during the week. Even on the lowlands sleet and hail were often mingled with the rain. The persistent presence of an anticyclone over Scandinavia and Lapland, with intense cold in those regions, contrasted remarkably with the disturbed state of the atmosphere and the unstable temperature in the British Isles and over France. On Sunday morning, indeed, the barometer stood uniformly rather high, but by Monday morning a V-shaped depression had advanced over Ireland, throwing the weather into a wet and dull condition. At night a lunar halo was seen, and this was followed by a solar halo on Tuesday forenoon. The day was mild, but towards evening a sudden chill spread across Ireland from W. to E., causing heavy rain and sleet, while thunder and lightning occurred at Belmullet. At 8 a.m. of Wednesday the barometer ranged from 30·55 inches at Hernösand (Sweden) to 29·40 inches at Wick. Showers of cold rain and hail were very prevalent on

this day, and thunder and lightning were reported from the S.E. of of England. On Thursday evening the most serious depression of the week advanced to the Bristol Channel, thence passing northwords to the Irish Sea. It caused a downpour of rain and sleet in many districts. Saturday was chiefly fine, but at night a lunar halo and a falling barometer heralded the approach of a new disturbance from the Atlantic. In Dublin the mean atmospheric pressure for the week was 29·723 inches, the barometer falling from 30·081 inches at 9 a.m. of Sunday (wind, N.W.) to 29·328 inches at 11 p.m. of Thursday (wind, E.). The corrected mean temperature was 42·1°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 41·2°. The shade thermometers fell to 33·0° on Sunday and rose to 53·1° on Tuesday. The prevailing winds were S.S.E. and W. Rain fell daily to the amount of 1·277 inches, ·735 inch being registered on Thursday.

Another spell of cyclonic conditions and unsettled, squally, showery weather signalised the week ended Saturday, the 20th. Deep atmospheric depressions appeared in the S.W. at the beginning and in the N.W. towards the close of the period. In the extreme N.E. (over Northern Russia and Lapland) the barometer stood relatively high and the cold was at times very intense—on Thursday, for example, the thermometer fell to—20° at Haparanda, on the Gulf of Bothnia, and the 8 a.m temperature at that station was—12°, or 44° below the freezing point. On Sunday morning a large depression was central off the S.W. of Kerry. Thence the system travelled in a circuitous route to Wales, over which country it was found on Monday morning. At that time the weather was dull, cold, and wet in Dublin, with a light N.E. wind. The disturbance subsequently travelled north-north-westwards to the North Channel and the wind backed in Ireland to W. and S.W. On Tuesday a new depression passed in a northerly direction along the west coast of Ireland. The reduction of pressure went on until 2 p.m. on Wednesday, when the barometer read only 28·75 inches at Malin Head. On and after Thursday there was a brisk recovery of pressure in the S.W. and S., so that on Saturday morning the barometer reached 30·07 inches in Dublin. During the disturbed period up to Friday, squalls and showers accompanied by thunder and lightning were prevalent in Ireland and England. Hail and sleet or snow fell in Scotland on Monday. In Dublin the mean height of the barometer was 29·440 inches, the range of pressure being from 29·003 inches at 9 a.m. of Tuesday (wind S.) to 30·067 inches at 7 a.m. of Saturday (wind E., light). The corrected mean temperature was 46·1°. The mean dry bulb reading

at 9 a.m. and 9 p.m. was 45·1°. On Sunday the screened thermometers fell to 36·9°; on Saturday they rose to 56·9°. Rain fell on 4 days to the amount of ·392 inch, ·239 inch being measured on Monday. Thunder was heard on Wednesday.

A continuance of cyclonic conditions is to be noted in the week ended Saturday, the 27th, but there was a great advance in temperature, and the rainfalls, although frequent, were not heavy. A succession of deep depressions passed northwards or north-eastwards along the western coasts of Ireland and Scotland at short intervals, causing fresh S.W. to W. gales and showers in most exposed districts. In the extreme north of Europe the weather remained very cold throughout, although at Haparanda the thermometer on Wednesday morning stood 26° higher than it had done 24 hours previously, at +22° compared with −4°. Sunday was very mild in Ireland and England—the thermometer rose in the shade to 61° at Parsonstown, Oxford, and in London; to 62° in Dublin and at Loughborough; and to 64° at Cambridge. In Dublin S.W. or W. gales occurred on Monday, Wednesday, and Friday—the force of the wind being especially great on Wednesday. The high temperature and frequent showers gave vegetation so great an impetus that at the close of the week even forest trees were quickly assuming a leafy covering—in fact vegetation appeared to be a month in advance. On Saturday temperature showed a tendency to give way. In Dublin the mean height of the barometer was 29·713 inches, pressure ranging from 30·034 inches at 9 a.m. of Sunday (wind, calm) to 29·210 inches at 7 p.m. of Saturday (wind, W.), The corrected mean temperature was 52·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 50·7°. On Sunday the screened thermometers rose to 61·6°; on Saturday they fell to 45·9°. The rainfall was ·270 inch on six days, ·085 inch being measured on Friday and ·083 inch on Saturday. The prevailing winds were S.W. and W.

On Sunday, the 28th, a brisk and sudden fall of temperature occurred in the forenoon, and showers of cold rain and hail fell in the afternoon. The cold spell thus ushered in lasted to the end of the month, a very sharp frost prevailing on the night of the 29th–30th, when the screened thermometer fell to 25° at Loughborough and Shields, 26° at Parsonstown and various British stations, 27° at Oxford, Leith, and Aberdeen, and 29° in London and Dublin. At this time the centre of a large and deep atmospheric depression (28·70 inches and less) lay over the South of Scandinavia, a cold northerly current of air being in this way drawn over the British Isles.

The rainfall in Dublin during the three months ending March 31st amounted to 7·069 inches on 57 days, compared with 4·898 inches on 47 days in 1896, 9·084 inches on 52 days in 1895, 6·028 inches on 53 days in 1894, 5·196 inches on 49 days in 1893, 4·808 inches on 48 days in 1892, only 1·650 inches on but 32 days in 1891, 7·470 inches on 45 days in 1890, and a twenty-five years' average of 6·411 inches on 51·0 days (1865–1889, inclusive).

At Knockdolian, Greystones, Co. Wicklow, 3·755 inches of rain fell on 24 days during March; and the total rainfall since January 1, 1897, equals 8·945 inches on 61 days. The corresponding figures for 1896 are 2·796 inches on 25 days, the total rainfall since January 1 having been 4·736 inches on 42 days. The maximal fall in 24 hours was ·940 inch on the 2nd.

The rainfall in March at Cloneevin, Killiney, Co. Dublin, was 3·28 inches on 23 days, compared with 2·61 inches on 23 days in 1896, 3·29 inches on 21 days in 1895, 1·11 inches on 14 days in 1894, ·26 inch on 9 days in 1893, ·98 inch on 10 days in 1892, and a twelve years' (1885–96) average of 1·873 inches on 15·2 days. The maximum in the 12 years was 3·59 inches in 1888, the minimum was ·26 inch in 1893. At this station the total rainfall since January 1, was 7·59 inches on 61 days, compared with a fall of 4·25 inches on 42 days in the first quarter of 1896, 9·68 inches on 52 days in that of 1895, and 5·56 inches on 55 days in that of 1894. On the 11th, ·64 inch fell.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall in March was 4·490 inches on 23 days, 1·017 inches being registered on the 2nd, and ·748 inch on the 11th. The highest shade temperature at this climatological station was 59·1° on the 21st, the lowest was 28·9° on the 30th. Since January 1st, 10·086 inches of rain had fallen at the hospital on 57 days.

TABES AND SYPHILIS.

The *Montreal Medical Journal* gives the result of Storbeck's examination of 108 tabetics. Of these, 22 had certainly had syphilis; 63 had not; in 23 there was doubt. Adding one-half of these last he concludes that 30·5 per cent. of tabetics had suffered from syphilis. He regards the connection between the two diseases as unproved. Our contemporary mentions, in illustration of the variability of statistics on this point, that Gowers stated that syphilis had preceded tabes in 70 to 80 per cent. of cases; Fourmin in 93; Westphal in 33.

PERISCOPE.

ANTISTREPTOCOCCIC SERUM IN PUERPERAL SEPTICÆMIA.

Dr. G. H. Mapleton, M.B., Goudhurst, writes (*Brit. Med. Journal*, April 24, 1897):—"On March 7th I delivered a woman of a living child by turning, having previously dilated the os by Barnes's bags, on account of placenta prævia, which had caused very severe flooding, and which had been treated by plugging. The placenta came away immediately after the child, leaving some of the membranes behind. Intrauterine douches of corrosive solution (1 in 2,000) were used freely. There was a slight rigor the same evening, and a rise of temperature, which during the next two or three days did not improve, but ranged usually between 101° F. and 102° F., and seldom fell to 100° F. The lochia became very offensive. Iodine was substituted for corrosive sublimate, as the latter caused salivation. On March 11th there was a severe rigor, with a temperature of 103·2° F., which fell in a few hours to 99·6° after a dose of antipyrin. On March 12th there was another rigor and a temperature of 102·2°. Twenty c.cm. of antistreptococcic serum were now injected, and the temperature fell in a few hours to 99·4°. On March 13th temperature went up to 100·4° (the last time it reached 100°), and the lochia were much better. On March 14th another dose of the serum was given, temperature being 99·8°, with the result that it fell to 98·2°. From this time the patient made a good recovery, without further injections, the temperature merely rising from normal in the morning to 99·5° or less in the afternoons for about ten days. The injections caused no local inconvenience. The serum came from Messrs. Burroughs, Wellcome & Co.

LORD LISTER'S HOUSE-SURGEONS AND DRESSERS.

We learn that it has been arranged that those who were most intimately associated with Lord Lister as his house-surgeons, dressers, or clerks in Glasgow, Edinburgh, and London, in carrying out the details of the great principles of antiseptic surgery which he was elaborating during his tenure of office as Professor of Surgery first in Glasgow, then in Edinburgh, and lastly at King's College, London, should entertain their former chief at a banquet which will take place in London, at the Café Royal, on Wednesday, May 26th. The chair will be taken by Professor Joseph Coats, of Glasgow, and the dinner will be limited to those who have served

under Lord Lister as house-surgeons, clerks, or dressers. The dinner will therefore be of an intimate character, but will, we feel sure, be to Lord Lister not the least agreeable of the many expressions of esteem and regard which have been offered to him in connection with his election to the Presidency of the Royal Society and his elevation to the peerage. We are asked to state that, as Lord Lister entered on his duties at Glasgow in 1861, and at Edinburgh in 1869, considerable difficulty has been experienced in obtaining the names and addresses of those who were his dressers during the long period of thirty-two years for which he was a teacher of clinical surgery; and it is hoped that anyone who has filled one of the offices mentioned, but who may not have received a direct communication, should write to the Honorary Secretary of the General Committee, Dr. St. Clair Thomson, 28 Queen Anne-street, London, W. It is particularly requested that the year in which the office was held should be mentioned, and it is desired that this information should be given whether the writer proposes to attend the banquet or not, as it is proposed in any case to draw up a correct list of former house-surgeons, clerks, and dressers in chronological order. Sub-committees have been instituted in Glasgow and Edinburgh to communicate with those who served under Lord Lister in one or other of these capacities in either of the Universities.—*Brit. Med. Journal*, April 17, 1897.

A PRESCRIPTION.

A CORRESPONDENT sends the following prescription to the *Medical Record* from Chelsea (Mass.), "taken from the file of one of our city druggists who has filled it twice during the last month." The patient said it cured him of gleet:—℞. Calsum hypophos., ʒ iij.; potas. hypophos., gr. xxv.; lithiæ brom., ℈ i.; die. phosfor. acid, ʒ i½; fl. ex. nux vomika, ℈ iss.; fl. ex. hydrasters, ʒ vi.; fl. ex. hammemelis, ℈ vi.; fl. ex. cann. indica, ʒ iss.; fl. ex. gelseminumi, ʒ i; fl. ex. gentiern, ℈ ij.; fl. ex. chim. ophila, ℈ ij.; oil of morrus, ℈ iv.; aq. dastil,; syr. symplercis, āā ad ℈ xxxij. M. Two teaspoonfuls in water one-half hour before meals.

PRACTITIONERS IN RUSSIA.

THE *Gazette Médicale de Paris* states that in 1890, in Russia, with a population of 110,000,000, there were only 18,334 doctors, one to 6,000 inhabitants; the proportions in France, Germany, and England being respectively 1 to 3,000, 1,800, and 1,600. Most of the Russian practitioners are settled in the towns, where the proportion rises to 1 to 270; while in the country districts it is 1 to 9,000; and in some provinces even 1 to 12,000. The

entire government of Archangel, with 373,000 inhabitants, contains but 14 doctors; and the seaboard of the Arctic Ocean only *three* for a population of 135,000. The death-rate in Russia is said to be 37·3 per 1,000. At the beginning of this year the students of medicine in the Russian universities numbered 5,141—1,380 at Moscow, 986 at Kiev, 752 at Kharkov, 718 at Youriev, 454 at Warsaw, 451 at Kasan, and 400 at Tomsk. To these should be added 1,400 students at the military school of medicine in St. Petersburg; making a total of 6,541. The number of medical men qualified each year does not exceed 855.

ENTOMOLOGY IN LEGAL MEDICINE.

At the last meeting of the Canadian Medical Association, Dr. Wyatt Johnston read a paper on "Some Applications of Entomology to Legal Medicine," which, says the *Montreal Medical Journal*, referred to Mégnin's work. "Mégnin had made some remarkable deductions as to the time which elapsed since death in obscure cases by merely being shown a portion of the body—a bit of bone it might be—and examining the forms of life upon it. Their observations had agreed with those of Mégnin. The first period of decomposition might be roughly placed at about three months, in which a body exposed to the air, was attacked by two varieties of flies. First, by the ordinary house-fly, and later, by the flesh fly; but as soon as the fatty acids began to form, these flies took a distaste to the body and left it, then the Dermestes, a species of beetle were found. After fatty acids were formed, a period of ammoniacal decomposition set in and the body began to liquefy; there was then a period of from four to six months, in which various forms of insects were found. The next period, from the sixth to the twelfth month, is a period of drying, when the body becomes parchmented. It was now inhabited by the acari-mites, species belonging to the same order as the itch insect. Towards the end of this period another set of beetles made their habitat in what still remained—the Ptinus and the Tenebrio. In buried bodies the Rizophagus and the Philontes are found."

MUSIC FOR NIGHT-TERRORS.

We learn from the *Gazette Médicale de Paris* that the Russian physician Bestchinsky reports a case in which he found musical treatment successful in a case of "night-terrors," which ordinary methods had failed to cure. A little girl, three years old, woke up in the middle of the night trembling, with wide-open eyes,

muttering unintelligibly, falling asleep again after about ten minutes. The attacks had continued for a long time, but they were becoming more frequent and more troublesome. Sodium bromide was tried without success. It occurred to the doctor to try music. He decided that the piece selected should be neither gay nor sprightly, and chose a valse of Chopin's in C minor. The mother was instructed to play this piece every evening before putting the child to bed. She slept soundly; and on one occasion when the music was omitted a slight attack supervened. Next evening the music was resumed and the child slept without disturbance. Gradually the performance was intermitted; and at the end of a month discontinued. The attacks did not recur, several months having elapsed at the time of Dr. Bestchinsky's report.

THE TRI-STATE MEDICAL JOURNAL.

The three States, whose 22,000 medical practitioners this journal professes to represent, are Iowa, Illinois and Missouri. It is "issued monthly for one dollar a year;" and it must be said that subscribers get good value for their dollar—48 large pages of excellent matter, well-printed on good paper, as most American medical periodicals are. Its programme is comprehensive. It "stands for the code of ethics of the American Medical Association; for higher medical education; for the rights of the rank and file of the profession; for progress in medical science, and for the doctors of the United States of America." It is in its fourth year.

LABORDE'S TREATMENT OF ASPHYXIA.

The *Gazette Médicale de Paris* quotes the result of the first German trials of Laborde's method of treating asphyxia by rhythmic traction of the tongue. M. Knapp reported 11 cases, in 10 of which the procedure was successful. Most of them were serious; in five, other methods, including Schultze's had failed.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Red Gum "Tabloids" (B. W. & Co.)

Eucalyptus gum, or red gum, now official but long known as a mild styptic and antiseptic and as an excellent local and general astringent, has been prepared in "tabloid" form for some time. Recently certain improvements have been effected in the formula. Great care has been exercised so to adjust the relative proportions of the ingredients that the full therapeutic effect of the drug may

be obtained without offending the palate or affecting the appetite. When a red gum "tabloid" is allowed to dissolve slowly in the mouth, the continuous action of the drug on the mucous membrane of the throat is fully secured. Red gum "tabloids" are supplied in bottles containing 100 in each. They are very palatable and even refreshing in the mouth.

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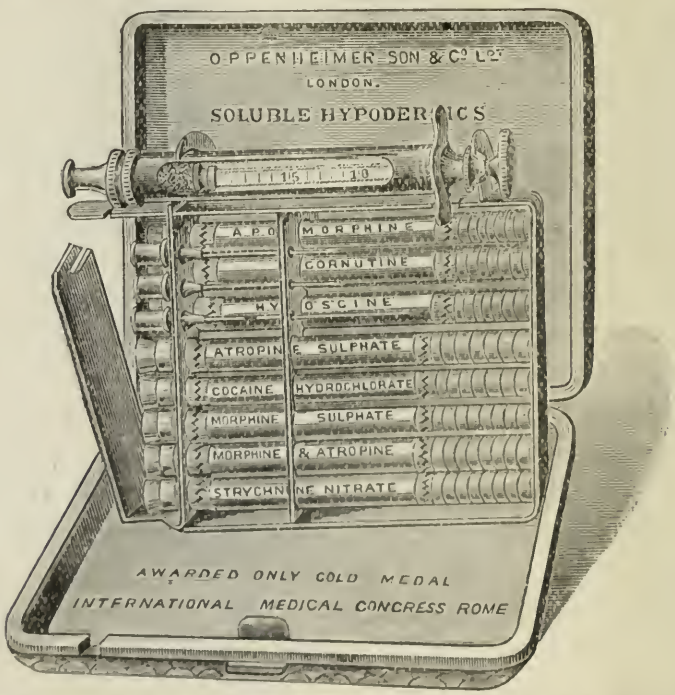
Messrs. Oppenheimer & Co., of London, have recently introduced a hypodermic case, which presents some novel and interesting features. It is one of the neatest, lightest, and most perfectly equipped instruments of the kind that we have ever seen. It is very portable, and when taken out of the pocket presents an attractive and even ornamental appearance. The case, of which the accompanying illustration will give a good idea, is fitted with



12 tubes assorted of soluble hypodermics, which are moulded and not compressed, so as to be easily dissolved in a few minims of water contained in the barrel of the syringe. The case also contains a hypodermic syringe of English manufacture, two ordinary hypodermic needles, and one exploring needle. The case itself is of aluminium, light and very durable. The metallic rack can be taken out of the case, and any tube required may then be selected therefrom. This case has the advantage of the contents not becoming displaced or shaking about when carried in the pocket. It is supplied fitted complete for twenty shillings sterling.

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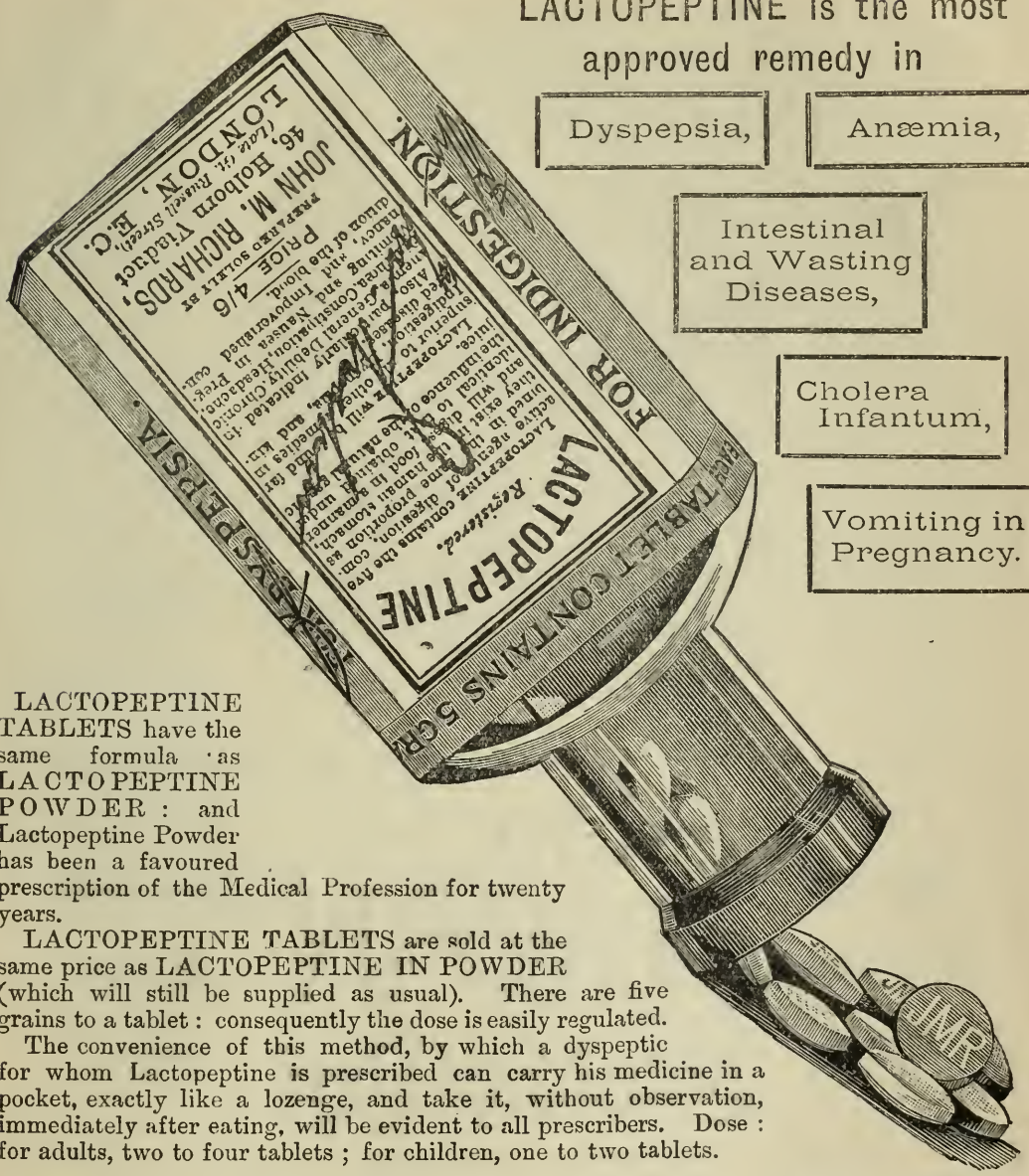

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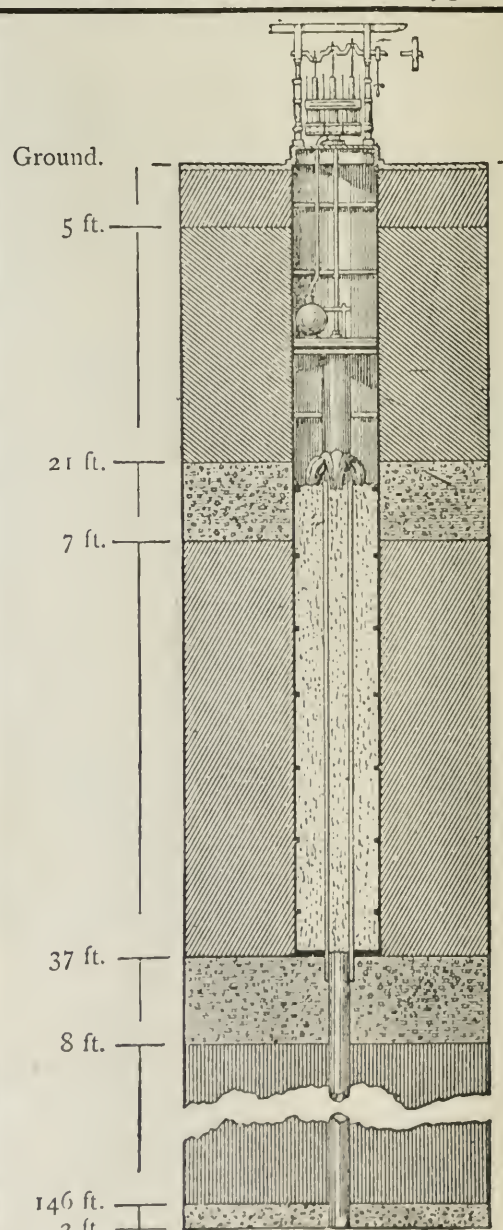

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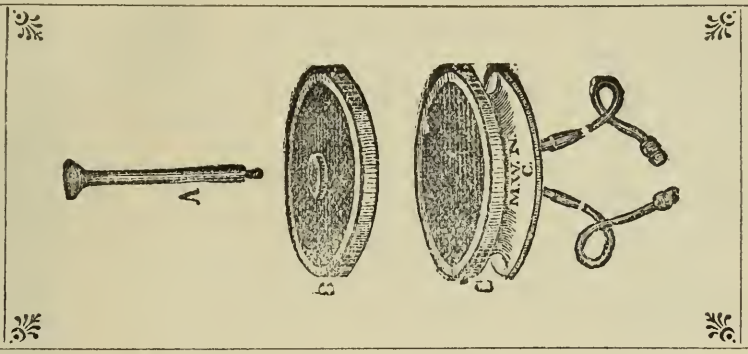

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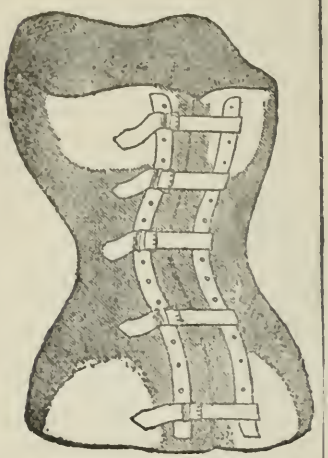

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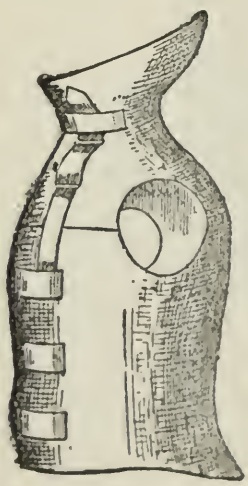

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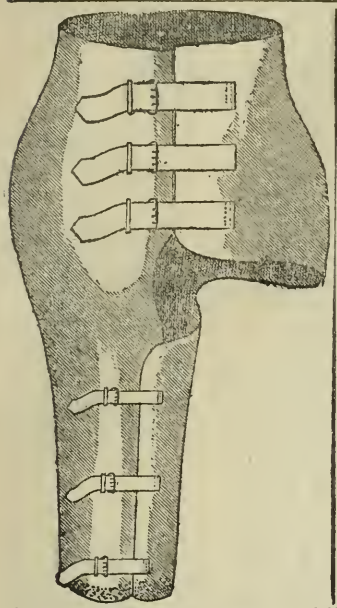

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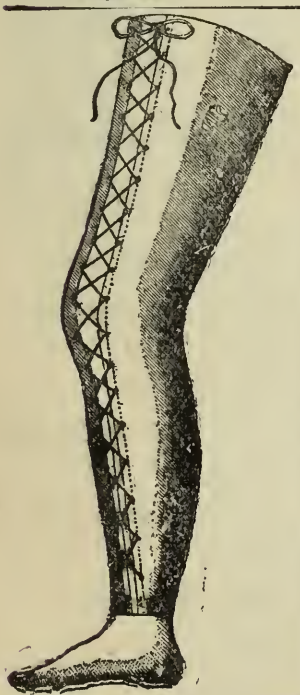
„ thigh, top of
„ above knee.
Length from waist to groin.

State if for right or left side.



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Circumference at top of thigh.
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„ at knee.
„ below knee.
„ calf.
„ ankle.
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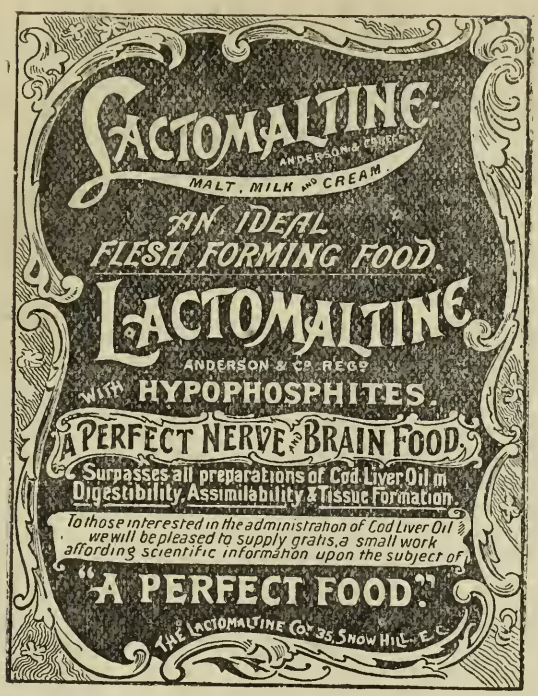
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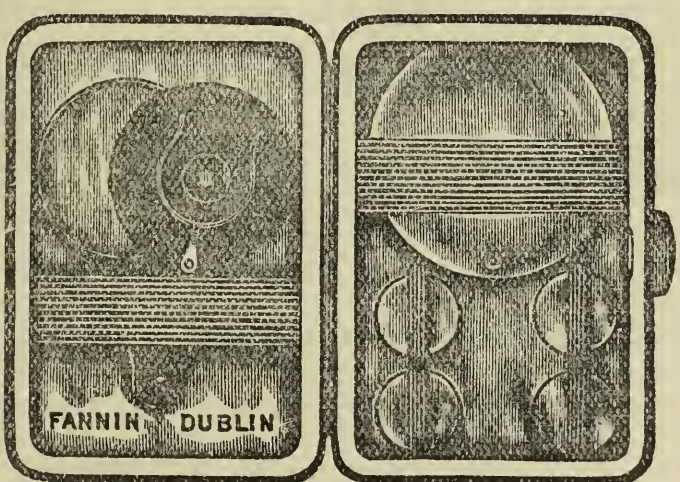

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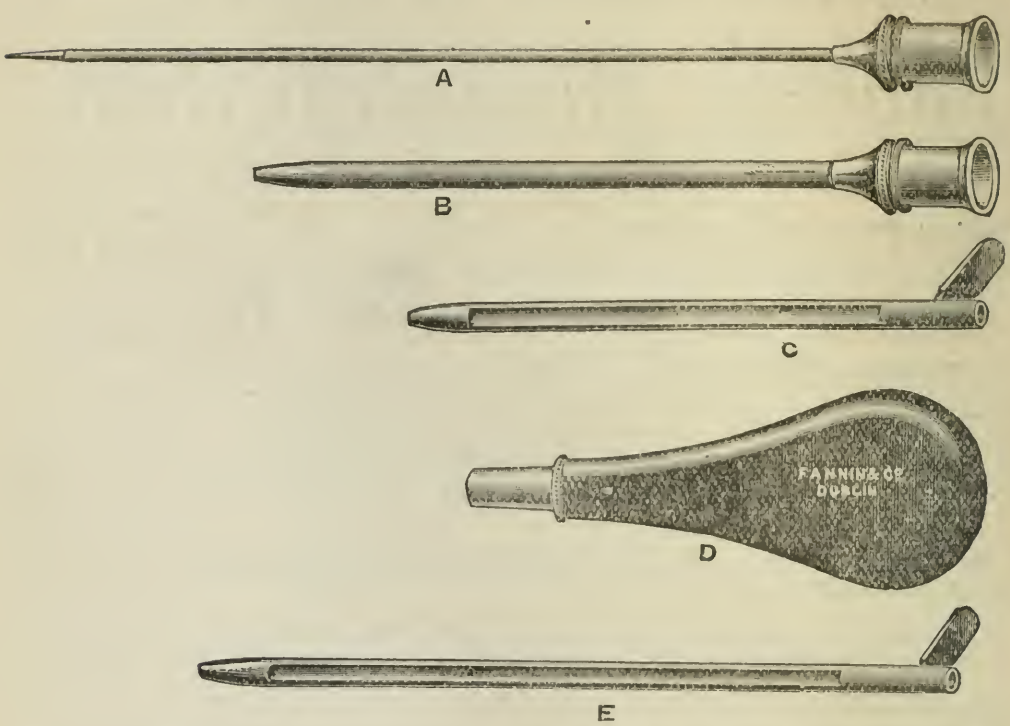

Fig. A represents an ordinary Aspirator Trocar. Fig. B, the Aspirator Cannula belonging to it
Fig. C. Cannula, with Director Groove made to fit accurately over A and B together.
Fig. D. The Handle. Fig. E. Director Cannula, fitting the Trocar A only.

Dr. FitzGibbon writes:—"The difficulty which occasionally arises in deciding with certainty whether a pleuritic effusion has resolved itself into an empyema or not often places the surgeon in the position of having to withdraw an Aspirator Cannula in order to open the pleural cavity freely for drainage and irrigation. Once the Cannula is withdrawn it is not always easy to get a director to follow the same track into the pleural cavity, as the relative positions of the skin, fascia, and pleura are apt to be altered by the escape of the fluid and by a change in the position of the patient."

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Figure E is a Director Cannula which Dr. H. FitzGibbon uses in cases where there is no doubt of the existence of an empyema, and in which a free opening is to be made without exploration.

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